

REPORT

OF THE

SURGICAL STAFF OF THE MIDDLESEX HOSPITAL,

TO THE

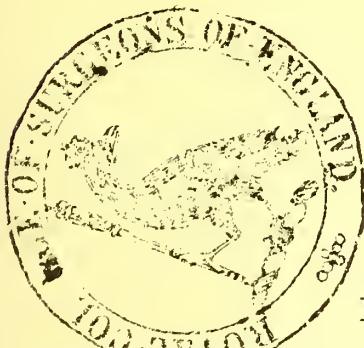
WEEKLY BOARD AND GOVERNORS,

UPON THE TREATMENT OF

CANCEROUS DISEASES IN THE HOSPITAL,

ON THE PLAN INTRODUCED BY DR. FELL.

PRINTED BY ORDER OF THE QUARTERLY COURT.



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R E P O R T
OF
The Surgical Staff of the Middlesex Hospital,
TO THE
WEEKLY BOARD AND GOVERNORS,
UPON THE
TREATMENT OF CANCEROUS DISEASES IN THE HOSPITAL,
ON THE PLAN INTRODUCED BY DR. FELL.

To the Chairman and Members of the Weekly Board.

GENTLEMEN,—The time has now arrived when, in accordance with the promise originally made by us, it becomes our duty to report to you upon the results of the method of treatment recently carried into execution by Dr. Fell and ourselves, in the Cancer Wards of the Hospital.

We think it well, first of all, to remind the Governors generally, that the existence of a special endowment for the maintenance of patients afflicted with Cancer forms a feature by which the Middlesex is distinguished from all other general hospitals. Patients with cancerous disease are indeed temporarily received into other establishments; but there nowhere else exists a fund applicable to the permanent support of that unhappy class of sufferers.

The Cancer charity originated so far back as the year

1791, in the benevolence of Mr. Samuel Whitbread, who devoted a considerable sum of money to its endowment. By the terms of his gift, it is provided "that patients labouring under cancer requiring operation, spreading ulcerated cancers, and cancers returning after operation, shall remain an unlimited time, until either relieved by art, or released by death ;" and it is also specially directed that "the name of every patient admitted into the ward fitted up for the reception of patients afflicted with cancer, shall be entered in a journal ; and when, in the judgment of the medical gentlemen of the hospital, any extraordinary circumstance may occur, or any remedy be discovered, a record shall be made and kept of the same, for the inspection of the public, agreeably to the spirit of the original paper presented by Mr. Howard,* which the donor particularly requests may be strictly adhered to."

Since the time of Mr. Whitbread, the Cancer fund has received various large and important additions ; so that at present it provides for the reception of 33 In-patients, and of an unlimited number of Out-patients.

During the sixty-six years which have elapsed since its foundation, the Governors of the Hospital have been desirous to diffuse the benefits of the Cancer establishment over as wide a circle as possible, by rendering it available for the trial of every new method of treatment which could with safety and propriety be adopted : the sole condition upon which such experiments have been allowed to be conducted being, that those who proposed them should previously satisfy the Medical Staff of their safety, and within a reasonable period consent to make the treatment public.

* At that time Surgeon to the Hospital.

These rules, which are alike enjoined by humanity, good sense, and professional etiquette, have, as may well be imagined, frequently been brought to the test. On the one hand, numerous so-called remedies for cancer have been proposed by persons both within and without the profession, and have been submitted to a fair trial in the hospital: on the other hand, numerous applications to try remedies have been declined, because their proposers either desired to conceal the nature of them from the public, or refused to submit them to that rigorous investigation which alone could render them available in practice. In the records of the Hospital are to be found various reports and communications upon these subjects, addressed by the medical officers to the Governors at large.

One of the most remarkable forms the subject of the following minute:—

“The Honourable J. C. Villiers read to the board an extract from a letter of Mr. Angerstein, dated Muddiford, the 29th of March, 1817, in which he states that a gentleman of the name of Ashby is in possession of a remedy for cancer and scrofula, and that the remedy was applied to several cases in the presence of some of his friends, with considerable benefit to the persons, and that Mr. Ashby is anxious to apply it to the cancerous patients of this institution, under the inspection of the medical officers.”

A statement of nine cases was also enclosed, of which the following is the only one of cancerous affection—viz.

“Mrs. Stadden, a miller’s wife, living at Soply, afflicted with a cancer in her breast three months before she was brought to bed of her second child, now twenty months old. She applied to Mr. Charles Quartly, of

“Christ Church, who put on plasters, from which she “derived no benefit. She saw Mr. Ashby about five “weeks ago, who, on putting four applications, extracted “eighteen long worms, and about the same number of “cancerous reptiles. Her health and spirits are much “better, but the cure is not completed, as there are “more animalculæ to come away.”

The medical committee made the following report on the subject of their interview with Mr. Ashby :—

“ Saturday, 5th April, 1817.

“ Agreeably to the directions of the last weekly board, “the Medical Committee met, for the purpose of taking “into consideration the propriety of allowing a remedy “for cancer, proposed by Mr. Ashby, to be tried in this “Hospital; and Mr. Ashby, being in attendance, the Com-“mittee came to the preliminary resolution of reading “to him the eighth paragraph in the printed orders con-“cerning the cancerous patients (page 46, in the year “1810); this they did for the sake of forming a basis on “which they might found their future questions.

“ The two following questions were then put to him, “to which he severally agreed, namely :—

“ Are you willing to entrust some of your remedy to “the care of the medical gentlemen of the house “for trial upon a case which shall be shown to “you, and by yourself acknowledged to be a “proper case for trial ?

“ Are you willing (should such trial be made, and the “result prove satisfactory) to declare the compo-“sition of your remedy, as every medical officer “is bound to do, should he be so fortunate as to “discover a remedy ?

"It was afterwards agreed by Mr. Ashby and the medical officers of the hospital, that his remedy should be applied in their presence on certain cases, which he selected for his purpose; and he moreover agreed to place the receipt, sealed up, in the hands of Mr. Angerstein, or the Hon. Mr. Villiers, to be disclosed for the service of the Hospital, if successful.

"Sunday, 6th April, 1817.

"The Medical Committee, anxious to comply with the wishes of the weekly board, met again this day, when Mr. Ashby, in their presence, applied his remedy to a cancerous breast.*

"Monday, 7th April, 1817.

"On this day the Medical Committee again assembled, and saw Mr. Ashby remove his application from the same patient's breast. Having discovered the source of the fallacy (of which Mr. Ashby, who is not a medical man, may perhaps be ignorant), the Medical Committee did not think themselves justified in allowing the repetition of an application which is disgusting and obviously ineffectual.

"(Signed) "CHARLES GOWER, Chairman."

On the 15th of April, "Mr. Bell † presented to the board the following letter, which he signed as his own sentiments, and recommended that it should be sent by the board to the Hon. Mr. Villiers and Mr. Anger-

* Mr. John Pearson, who had written on cancer, and other medical men not belonging to the Hospital, witnessed Ashby's mode of treatment.

† Afterwards, Sir Charles Bell.

"stein, as their opinion of Mr. Ashby, and his remedy
"for cancer :—

"SIR,—

"On your testimony in favour of Mr. Ashby, and at
"your earnest request to have his specific tried in this
"Hospital, we have recommended the same to our medi-
"cal gentlemen. They have, after a patient investiga-
"tion, returned a report which we think you ought to
"be made acquainted with; and we hope that the same
"humane feelings which induced you to send this man
"to us will now dictate the propriety of using your in-
"fluence to prevent the recurrence of such deceit as we
"find him guilty of.

"The Medical Committee report, that in the specific,
"by which you supposed insects were drawn out of the
"cancer, they saw the worms previous to its application
"to the cancer. They were in hopes that Mr. Ashby
"himself was deceived, but by his endeavours to conceal
"the worms, even when detected, they are convinced that
"he is an impostor, deserving punishment, if the law can
"reach him, and certainly unworthy of your countenance.
"When you reflect on the circumstance that worms,
"taken from the intestines of uncleanly brutes, are, by
"this man's act, attracted to the open sores of the poor
"creatures who submit to him, and that these 'reptiles'
"are made thus to nestle in their bosoms, we feel as-
"sured that you will be as indignant as we are, that
"such practices are permitted, and especially against a
"class of sufferers who demand all our sympathy."

The above disgraceful fraud, attempted to be practised on the Hospital by Mr. Ashby, led to the adoption of the following resolution :—" That upon an application made

" by any person or persons, stating themselves to be possessed of a remedy for cancer, and which they wish to be tried in the hospital, it shall be a preliminary rule that the nature of the remedy to be made use of shall be communicated to the surgeon and physician under whose immediate care the patient, upon whom the experiment is to be tried, may be, in order that they may enable the committee to determine on the propriety of its application in the first instance ; which would be the means of preventing an infinity of trouble to the medical officers ; and, perhaps, render ineffectual the attempts to impose upon the public, by persons stating that they are making use of a supposed remedy under the sanction of the medical officers of this institution ; which circumstance has already occurred in two instances, namely, that of a Mr. Green, and Mr. Ashby."

The investigations on Cancer, which are the subject of the present REPORT, commenced, it may be stated, in the fact, that a considerable amount of interest has lately been excited in this metropolis, by certain methods of treating that disease known to be pursued, first, by Dr. Pattison, and subsequently by Dr. Fell, both physicians holding American diplomas.

In November, 1852, the former of these gentlemen applied for permission to treat cases of Cancer in the Hospital : but as he declined to state the nature of the remedies employed by him, or to reveal them to the public when they had been fairly tested, his proposals were not acceded to.

At a more recent period, when it was ascertained that the mode of treating Cancer adopted by Dr. Fell, of New York, had been approved by several medical men

in London, the Weekly Board of the Hospital, ever alive to the importance of doing all in its power to advance the treatment of this intraetabie complaint, entered into communication with Dr. Fell, with the object of making his plan available for the patients in the Cancer Wards. At the time referred to, these communications led to no result. But at a subsequent period, Dr. Fell eame forward himself, and proposed to diselose his remedies under eertain conditions; a copy of which is here subjoined—

“ 1. That twenty-five eases shall be seleeted by the surgeons and myself (fair cases), and placeed in my entire eare in one of the wards of the hospital, until the disease is entirely removed and a healthy sore produued.

“ 2. The time to be occupied in the treatment of the said cases not to extend over a period of more than eight months, without the consent of both parties.

“ 3. That no person or persons shall see the eases while under treatment, except the Surgeons and Physicians of the hospital, without my consent, and that no student, nurse, or other person shall be allowed to remove or interfere with my dressing.

“ 4. That the diseased masses when removed shall be preserved and kept in the museum of the hospital for at least one year.

“ 5. That in the event of these conditions being satisfactory to the medical board and the governors, I will communicate to the Surgeons of the hospital the remedies and plan of treatment pursued by me, upon their pledging themselves not to reveal or use the same without my consent until a period of six months shall have expired, when they shall have full power to do so. As I am about to publish a work upon the disease and its treatment, the

above is simply to reserve to myself the power of throwing the treatment open to the profession.

" 6. That upon the conclusion of the treatment of the cases placed under my care in the hospital to the satisfaction of the surgeons, I shall receive an acknowledgment to that effect from your honourable board of governors."

It will be observed that these conditions include the fundamental principles upon which alone any method of treatment is permitted a trial in the Middlesex Hospital ; viz. the satisfying of the Medical Staff that the remedies can be used with safety ; and, secondly, the unreserved publication of them, so soon as they can be reasonably and fairly tried.

The Surgeons of the Hospital had considered it their duty to inspect, in common with numerous other medical men, cases of dangerous disease which had been treated by Dr. Fell : and they witnessed effects of a kind hitherto unknown to them. They were therefore quite ready to accept the terms upon which alone that gentleman was willing to make his secret available to the patients in the Hospital, and subsequently to the public generally.

Dr. Fell commenced treating patients in the Hospital on the 22nd of January last. After the lapse of a few weeks, he requested the Surgical Staff to make a Report, as far as they then could, upon the merits of the treatment pursued by him, with the object of inserting it in a book which he was about to publish on the subject of Cancer. We subjoin a copy of our conclusions, as expressed in that Report. Owing to the short time which had elapsed since the treatment had been in operation, they were necessarily of an incomplete character : but we see no reason to alter them in any way.

" I. Dr. Fell's mode of treatment is in entire accordance with known principles of surgery, is ingenious, safe, and easy of application by well-instructed surgeons.

" II. It may be employed in all cases in which surgeons use the knife, and in many others in which no prudent person would recommend a cutting operation.

" III. Dr. Fell confines himself to the enucleation of the tumours merely; and, in the case of the breast, does not remove the entire gland, as is commonly considered necessary in the excision of mammary cancers in this country.

" IV. It is a great advantage attending this mode of treatment, that the patients are not confined to bed or to the house; but that, on the contrary, they are able to obtain the benefit of exercise in the open air. In some instances their health has manifestly improved during the treatment.

" V. The patients being exempt from the immediate hazards of a cutting operation, such as exhaustion and haemorrhage, and being able to pursue the treatment without confinement to bed, they appear little prone to such constitutional affections as erysipelas and pyæmia.

" VI. The enucleation of the diseased mass is succeeded by a healthy granulating and cicatrizing surface. From the inspection of Dr. Fell's private cases of longer duration than those in the hospital, the undersigned have had opportunities of observing that healthy cicatrices are eventually formed.

" VII. All the patients have suffered pain during the treatment; some have spoken lightly of their sensations, others have complained much. No one, however, has sustained that acuteness and severity of pain which characterises the action of caustics, as ordinarily

"employed; and it has been observed that the pain
"which has been felt has usually been referred, not to
"the tumour itself, but to parts at some distance from
"it, as in the case of the mamma, to the shoulder
"and arm.

"VIII. Although the treatment is less expeditious
"than that usually resorted to, yet, taking account of
"the average time that elapses before a patient has
"completely recovered from a cutting operation, it is
"probable that the difference between the two modes
"of treatment, in point of expedition, is by no means
"great.

"IX. The undersigned have not as yet had time to
"ascertain the average duration of the benefit con-
"ferred by the treatment, nor have they any means of
"knowing whether, in the event of a return of the
"disease, there be any difference observable from what
"is known to take place after excision."

Description of Dr. Fell's Treatment: Constitutional: Local.

The Treatment of Cancer, on the plan made known to us by Dr. Fell, has been employed in about sixty cases, during the past six months. The patients were seen and dressed every day, Sundays usually excepted, and records were made as to the nature, treatment, progress, and hitherto observed results of the majority of the cases. These records form the basis of the present Report.

Very early in the course of our observations, we were satisfied not only that this method of treatment was an improvement upon those previously known, but that it might prove a boon to many persons hopelessly suffer-

ing from advanced Cancer. Accordingly, the principle upon which patients were selected for treatment was soon altered. Those first chosen were, for the most part, such as might have been subjected to a cutting operation; and it was our object, as well as that of Dr. Fell, to compare the results of the two modes of treatment in cases adapted for either. But when cases unsuited for the knife presented themselves, in which there appeared a reasonable prospect of conferring real, though it were only temporary, benefit by the treatment, it was adopted in them also. Dr. Fell made no reserve for the sake of his reputation, if any amount of good could be done; and, accordingly, cases will be found detailed, which would never have been selected, if regard had been had only to the appearance they would make in a judicial Report. We have hence obtained the advantage of being able to present a much more full account of both the successes and the failures of the treatment than could at first have been hoped. Still we regret to add that but too many patients offered themselves, in whom the disease had reached a stage beyond help from this, as from all other methods of treatment, except such as would merely palliate suffering.

The cases selected were limited to that class of Cancer in which there existed some form of external Tumour or Ulcer. No instances of the disease in any of the internal organs, were subjected either to the topical or constitutional mode of treatment. The chief situations of the disease, in the chosen cases, were the Female Breast, and the Skin. In one or other of these organs all the common forms of cancer presented themselves; and the action of the remedies upon them could be visibly ascertained.

Constitutional Treatment.

All the patients took, twice daily, a pill, composed of the root (rhizoma) of the Sanguinaria Canadensis, and Iodide of Arsenic, in the proportions of gr. $\frac{1}{2}$ of the former to gr. $\frac{1}{24}$ of the latter. Each pill contained also one grain of the Extract of Conium.

The arsenical preparation is a remedial agent of great power, which has been employed for several years past in the treatment of cancer, in this country. We need not say that both it and the conium have been amply proved incompetent to effect a cure of the disease.

The sanguinaria root is used in the United States, and is said to act, when taken internally, as "an acrid emetic, with stimulant and narcotic powers. In small doses it excites the stomach, and accelerates the circulation; more largely given, it produces nausea, and consequent depression of the pulse; and in the full dose occasions active vomiting. The effects of an overdose are violent emesis, a burning sensation in the stomach, tormenting thirst, faintness, vertigo, dimness of vision, and alarming prostration. It has a faint narcotic odour, and a bitterish very acrid taste, the pungency of which remains long in the mouth and fauces. Snuffed up the nostrils, bloodroot excites much irritation, attended with sneezing. Upon fungous surfaces it acts as an escharotic. The virtues of the root are said to be rapidly deteriorated by time."*

The reason of employing the sanguinaria root as an internal medicine, in the cases about to be reviewed, was

* The Dispensatory of the United States of America, by Wood and Bache. 7th edition, 1847, p. 627.

to test the statement made by Dr. Fell that, in addition to the powers attributed to it by practitioners generally in his country, it had, in his hands, proved capable of destroying the Cancerous Diathesis.

The pills were not, however, employed by Dr. Fell, without being accompanied by the local treatment ; nor was their use continued after the removal of the external tumour and the cicatrization of the wound.

Local Treatment.

The topical remedy was sometimes supplied by Dr. Fell, and sometimes made by us from materials which we had ourselves procured. Its effects were the same in both cases. It was composed of a strong decoction of Sanguinaria Root, Chloride of Zinc, and Flour, and was usually brightly coloured by the admixture of Cochineal. The chloride of zinc was the largest ingredient in the compound, the proportions being

Decocti Sanguinariae	.	.	.	.	3ij.
Zinci Chloridi	.	.	.	.	3ij.
Farinæ Tritici, q.s.					

These materials, when mixed, became a glutinous paste, a little more consistent than treacle. Such a form was found to be very convenient for application, as it could be easily spread upon calico or cotton-wool ; and, whilst not itself unctuous, it could be diluted at pleasure by the admixture of ointments, without losing any efficacious qualities. As its only fluid was water, it was a cleanly application, the effective parts percolating and mixing with the tissues, whilst the liquid portion escaped, and even left the surface dry and hard.

The mode of applying the paste varied according to

the condition of the surface. When the cancer was extensively ulcerated, the paste was laid at once and directly upon the Ulcer. But if the Tumour were almost or entirely covered by unbroken skin, some previous treatment was requisite.

1. In treating an Ulcerated Cancer, a small quantity of the paste was diluted with Stramonium, or other ointment, spread on cotton-wool, and pressed into contact with the whole ulcerated surface. By the next day, a thin superficial layer of the morbid structure was usually found changed into a dull white, friable, insensible eschar, and the fætor and discharge were lessened. The undiluted paste was then applied in the same manner: and the dressing was renewed from day to day, until it appeared to have pervaded the disease in its entire thickness. Fragments of the eschar were removed as they became loose; and light incisions were made from time to time in its deeper and more fixed parts, with the purpose of facilitating the gradual percolation of the paste to the inmost layers of the disease. The use of the paste was then discontinued, and poultices, or what is better, soothing ointments were employed, particularly around the edges of the eschar. A line of demarcation formed and deepened, and the dead mass was at length cast off. If the eschar comprised the entire mass of the Cancer, a perfectly healthy granulating sore soon appeared in its place, and speedily healed. If, however, any part of the original disease remained, it was requisite to renew the treatment, only taking care, as before, to dilute the paste on its first application to the tender surface of the ulcer.

The mode of procedure was varied, if the ulcer were small, or if it furnished little secretion; for then the

surface soon became thickly coated with a dry, horny shell, which obstructed the ready passage of the paste to the morbid tissues beneath. In that case, the plan of introducing the paste, which was proper to the treatment of Tumours shielded by unbroken skin, and now about to be detailed, was adopted.

2. Two peculiarities marked the treatment of Cancerous Tumours, which had not yet ulcerated, or were ulcerated only to a small extent. In the first place, no ingredient in the remedy being capable of destroying healthy skin, at least, in a reasonably short period, it was necessary to remove that obstacle to its action upon the soft and permeable tissues beneath. The treatment, therefore, commenced by destroying the skin, to about the same superficial extent as that of the tumour, by means of strong nitric acid. The skin was lightly touched with the acid, until every part of it intended to be destroyed, had lost its natural appearance, and acquired a yellow colour. A bright red halo formed around, and vesication commenced upon the charred surface. The latter process ceased on the application of a layer of the paste, spread on cotton; and the next day, on removing the dressing, a dry, tawny-yellow eschar appeared.

Then commenced the second, and the characteristic process in the treatment by Dr. Fell. Parallel scratches or shallow incisions were made along the charred skin, for the purpose of inserting into them strips of calico, smeared with the paste. These incisions varied in number, being usually made about half an inch apart, but sometimes there were not more than four in a breadth of five or six inches. They were carried along the whole length of the eschar, and to a depth somewhat short of

the living tissues beneath. For the first two or three days they were seldom deep enough to lodge the strips of calico ; still even the scratches sufficed for the percolation of the remedy into the subjacent living parts. Each day the incisions were a little deepened, and fresh strips of anointed calico, or rolls of cotton wool covered with the paste, were inserted into them, until in the course of from two to seven weeks, the average time being about three weeks, the whole depth of the tumour was penetrated ; and then the use of the paste was discontinued, and the eschar left to separate.

As much of the success of this treatment depends upon the mode of practising it, we think it right to add a few observations upon certain details, which may be of value to those who undertake it.

It is an advisable precaution to destroy the skin effectually by the preliminary action of the acid. The paste is capable of destroying that tissue, but its action is slow and extremely painful. Sometimes a thick white friable epidermis forms upon skin which has been irritated, but not killed, by the acid ; and in one instance, a week was occupied in the entire destruction of skin, which had at first been incompletely charred.

By the use of the acid an eventual saving of pain is obtained : and as its action is severe, it should be employed under chloroform, if the surface be extensive. In some instances we deadened the local sensibility by congelation, instead of resorting to chloroform.

It is important, for the most part, to renew the dressings every day, until the action of the paste has extended through the whole depth of the diseased mass. For unless it be kept percolating more and more deeply, a line of demarcation will be formed across, instead of

beneath, the tumour, and no further progress can be made until the superficial eschar has come away. The treatment must then be begun afresh.

The same observation applies to the depth of the daily incisions. Unless they be deepened from day to day with a sufficiently bold use of the scalpel, the paste may not continue to penetrate the disease, and too shallow an eschar will be removed. On the other hand, it is very possible to cut too far, when bleeding annoys the operator, and the patient suffers unnecessary pain at the next application of the paste. On one occasion, a small artery appeared to be opened, and a troublesome haemorrhage took place. A little practice and care soon enables the surgeon to guide his knife aright, and to avoid at once too timid and too deep a cut. This precaution as to advancing the incisions in depth is of especial importance just at their extremities : the margin of the disease is particularly likely to escape destruction, and to show itself again after the separation of the eschar, by an apparent reproduction at the edge of the sore.

For exposing to view the bottom of the slits, the surgeon will find it convenient to insert into its deepest part the points of a stiff pair of dissecting forceps closed : by allowing the blades to expand, the sides will be kept asunder, and the part of the tumour newly acted upon by the paste will be put slightly on the stretch ; a slight touch of the edge of the scalpel directed between the blades, will then suffice to penetrate the eschar to the required depth.

The quantity of the application need not be very carefully measured. It may be spread somewhat freely upon strips of calico, or on cotton wool ; and the most convenient plan is to cut the strips of the right number and

length, to lay them side by side on a slab, and spread the paste over them all at once with a spatula. They are then easily taken up singly with a pair of forceps, and tucked into the fissures with a dull-edged knife. If it is desired to destroy the tumour quickly, or if it is not intended to repeat the dressing on the following day, the paste may be more thickly spread, and an additional quantity may be inserted after the strips are in place. A piece of dry linen should be laid over the tumour ; and oil-silk, gutta-percha, or any material which would obstruct evaporation, should be carefully eschewed. Unless there be some unusual moisture, or oozing of fat from the tissues, the dressings will be found quite dry by the following day. Considerable advantage seems to result from this practice of keeping the parts dry. It is cleanly ; and the patient is spared the annoyance of repeated ablutions, and the pain of frequent dressings. To some persons, this is by no means unimportant, since they are prevented from harassing themselves by the frequent sight of their disease : indeed, they never see it except in the presence of their medical attendant. Again, the dryness of the whole eschar leaves the remedy undiluted ; it is, therefore, easily manageable, and its effective quantity can be proportioned at will to the requirements of each case.

It was always a matter of much interest and importance, to determine when the incisions had been carried deeply enough ; but it must be confessed, that the question was not easy to settle. When the tumour was hard, there was little difficulty about it, as the sensation conveyed to the fingers by the soft tissues beneath the tumour was readily distinguished from that of cutting the crisp substance of scirrhus. Occasionally the knife

could be felt to pass abruptly from the one tissue into the other, and then the contrast was unmistakeable. In that case, of course, the treatment needed to be pursued only in those incisions, or parts of incisions, which were not complete. The chief difficulty in determining the question occurred when the natural and morbid tissues were of nearly equal consistence. Sometimes, even in these instances, the sensation conveyed through the knife was clear enough to lead us to desist from further treatment; but when there was no other indication, we were guided by our original observation of the depth of the disease; by differences in the sensations of the patient, arising, as it seemed, from the process of ulceration beneath the eschar; by the commencing elevation of the dead mass above its former level; or by the shrinking, the concavity, and the subsidence of all vascular or other excitement, in the normal tissues around the eschar. The result showed, that in these doubtful cases, there was more liability to cease the treatment too early, than to continue it too long. And we may add here, as an inducement to carry the incisions at first to the bottom of the morbid structure, that if any portions of a tumour were left after the removal of the eschar, their rate of growth was generally greater than that of the tumour of which they had formed a part, and the pain attending their destruction was more severe.

We need hardly, perhaps, draw attention to the necessity of distinguishing between opening a cyst, and arriving at the bottom of the tumour. The sensation conveyed by both was sometimes similar: but the former usually occurred in the centre of the morbid growth, when it was clear that there must be deeper disease; and the escape of the fluid contents of the cyst at once, and for some

days afterwards, showed what had happened. The paste was always introduced in considerable quantity into these cysts.

The action of the paste, and the rate of its progress through different structures, varied considerably. Skin, as we have said, yielded little and slowly ; contrasting strongly in this respect with the rapidity with which the subcutaneous cellular tissues were penetrated. Healthy breast tissue, and that of the chronic mammary tumour, were easily and speedily destroyed ; as well as the soft superficial layers of cancerous ulcers. Fresh flowing blood, when brought into contact with the paste, instantly turned to a bright vermillion tint, and to the consistence of white of egg ; the same blood on the following day, or that which filled the dead vessels in the eschar, was of a blackish hue and solid. Fat was unaltered by the application ; the walls of the lobules were destroyed like other cellular tissues, but the oil, unchanged, oozed through them and escaped, or saturated, like other oils, the eschar and everything it touched. Nerves yielded the least readily of all the natural tissues to the action of the paste, and seemed to retain their vitality even in the substance of the deepest layer of the eschar. This circumstance will be referred to more particularly in the description of the separation of the slough.

Cancerous substance was easily acted on by the remedy in proportion to the looseness of its texture. Hard scirrhouus tumours were very slowly penetrated, whilst the softer masses were rapidly destroyed. The fresh section of an eschar of cancerous substance thus destroyed, is creamy and glistening, of a dull-white, or white-ash colour, slightly tinted fawn. The firmer

tumours bear traces of the natural arrangement of their texture; but the softer growths are found to have the uniform appearance and the consistence of yellow soap, and, except where they are discoloured by extravasated blood, to be nearly white.

Some other circumstances, observed in the course of treatment in connexion with the action of the remedy on the cancerous material, claim more especial notice.

The shrinking of the mass during the application of the caustic was very remarkable. By measurement from day to day the incisions appeared very slowly to increase their depth; while it was plain to the eye that the entire diseased mass had greatly diminished in bulk, and that the incisions were fast approaching its deeper surface. This slow progress by measurement, combined with rapid actual destruction of the tumour, was in no instance so marked as in the succulent medullary form of cancer, or softer scirrhus. Masses of this disease, very formidable in point of size and rapidity of growth, diminished in depth and bulk during the steady percolation of the remedy into them. A very large breast affected with medullary cancer, which plainly grew even during the time occupied in destroying the skin, and raised fears lest the remedial agent might not overtake the fast-spreading disease, shrank with great rapidity when the paste reached the mass of the tumour; and that even while the incisions seemed scarcely to deepen from day to day. It was plain from observing the incisions, that the shrinking occurred in that part of the tumour which had been destroyed by the paste. The effect of this shrinking upon the remaining and more deeply-seated part of the disease, constitutes one of the most valuable facts brought to light by this treatment.

For the deep prolongations of the disease are actually by this process of slow shrinking and contraction of the more superficial eschar, brought within reach of the treatment, when at first they appeared hopelessly beyond it. This remarkable circumstance secured the entire removal of the tumour from the cheek and orbit in the case of Jane K——. (Case 45). The same slow process is at this moment gradually bringing within reach the deep attachments of a large tumour in the parotid region, in a young woman, Mary N—— (Case 46) who was sent to the hospital after an unsuccessful attempt had been made in the country to remove the tumour by operation.

In certain situations, the deeper parts of the disease are even drawn forth towards the eschar and the surface, by this contracting process. Such was the fact in the cases just referred to, in each of which the tumour dipped between two bones, which were too near together to allow of the broad eschar sinking between them; the necessary consequence was the elevation of the base of the disease, and its ready destruction. In loose tissues like the breast, on the other hand, the eschar sank deeply, and usually acquired a flat surface, the plane of which was level with the surrounding edge of living parts, and distinctly contrasted with the former convexity of the breast. It was only when the living part granulated, and contracted beneath the dead mass, that it was thrust out above the surrounding surface.

The slight amount of constitutional sympathy called forth by the formation of the slough, is a circumstance of much practical importance in respect to the value of the treatment. Masses of dry slough five, six, or seven inches wide, and more than two inches deep, lay on the front of the chest; yet the patients could be out of bed for

a part of the day, had no material alteration of pulse, retained appetite, and were free from that depression of strength and feeling which usually accompanies mortification. Much of this probably depended upon the small extent of slough produced each day; for since the progress of the escharotic through three inches of tissue occupied a period of three, four or five weeks, the amount of daily advance was necessarily small, and the constitutional effect moderate. Moreover, since the dead mass was from first to last without odour, and dried up the more the longer it remained, there was no evil effect from its mere presence, no nauseous effluvium affecting the appetite, comfort, and general health, and no transudation of effete matters into the adjoining healthy parts. The antiseptic influence of the remedy was very powerful, and sufficient to preserve the tumours from decomposition for weeks, or, indeed, apparently for an indefinite period, after their removal from the body.

The separation of the eschar occurred nearly in the same manner as in the case of other sloughs. A line of demarcation formed and deepened; the living surface granulated and rose, throwing the dead part into considerable prominence; and sometimes, before the separation of the slough, the living parts contracted so much, that the eschar was found to be considerably larger than the sore from which it came.

There was, however, one peculiarity about the eschar produced by this paste, with which we were not familiar in the soft parts; viz. that it did not separate at the same level, in all structures. When every other part had ulcerated through, the nerves still remained as living cords, crossing the line of demarcation. The arteries were all closed and ulcerated through, and their extre-

mities lost in the granulations, but the nerves were neither ulcerated, nor even dead. This persistence of vitality in the nerve-tissue added a good deal to the pain of finally separating the eschar, and made it necessary to look for and divide all isolated cords, which could be seen holding together the living and dead parts, as well as to remove the eschar as soon as possible. Most frequently its dead base was cut through with the knife or scissors, and the heavy mass was removed. The remaining part soon separated without pain. The only treatment requisite during this period was quiet, and the application of the stramonium ointment* to the living parts adjoining the hard inflexible eschar. Considerable comfort was afforded by its emollient properties.

The management of the sore after the separation of the eschar was very simple; unless in some part of it, as was not unfrequently the case, a portion of the diseased tissue had been left behind. The stramonium ointment was usually spread on cotton wool, and laid on the sore once or twice daily; if the sore were free from disease, the healing process advanced with remarkable rapidity, and the resulting cicatrix equalled no more than one-sixth or one-eighth of the area of the eschar. Large pale granulations, which were not distinctly cancerous, were treated with an ointment of subacetate of copper, and were often repressed, and healed under its use.

When it was clear that a portion of cancerous matter still remained in the sore, the treatment with the paste was renewed at that part, and a second eschar removed. These remnants of disease frequently appeared at the

* Made by boiling one pound of the leaves of stramonium in six pounds of lard, and subsequently straining.

inner, and still more so at the outer edge of the ulcer; and their situation suggested the propriety of employing radiating, instead of parallel incisions, in order to secure the equal destruction of the whole circumference of the disease.

Diseased glands were differently dealt with according to circumstances. Single glands which were of small size, even though hard, and those which appeared to be enlarged by mere over-activity, were not interfered with. Clustered masses of unquestionably cancerous glands were occasionally observed to diminish considerably in size, during and after the destruction of the primary growth. In such circumstances they were not removed. Those, however, which retained their bulk, which were adherent, or which actually enlarged during or after the treatment, were removed with the acid and paste, in the same manner as the primary growths covered by skin. It was curious to observe, in the axilla, how the shrinking of the lower diseased glands, when permeated by the paste, drew down within reach of the treatment other glands which had seemed too high to be attacked. When the upper end of a chain of diseased glands could be felt above the clavicle, of course those in the axilla were not treated; indeed, as a general rule, such a case would, from the first, be deemed unsuitable for treatment, except so far as the comfort and duration of life might be augmented by the removal of the primary disease.

When thickening and tubercles appeared in the skin, they were treated by the daily application of an ointment of the iodide of lead. It appeared to us, that an arrest in the deposition and growth of the morbid material of cancer occurred more frequently and uni-

formly under this treatment, than is known to take place spontaneously in secondary cancers of the skin. There were instances, however, in which the disease made unabated progress in the skin, even while assiduously treated with the iodide of lead ointment. The like observations apply to the occasional behaviour of secondary cancer in glands, under the same application.

Of the Cases of Cancer to which the Treatment by Incisions and Caustic is applicable.

In declaring our estimate of the value of the mode of treatment which we have just described, we do not think it of practical importance to enter upon a minute classification of the cases which came before us. They presented the common forms of scirrhous, encephaloid, and epithelial cancer, in about the ordinary proportions.

What seems more important to state is, that the treatment appeared to possess an equal fitness for all these forms of the disease, if only the cases were judiciously selected. When, on particular grounds, the treatment of a case of encephaloid cancer was undertaken, the remedy was found capable of overtaking the rapid growth of that disease, quite as readily as it destroyed the epithelial and scirrhous forms. The grounds on which cases should be submitted to this treatment can, of course, only be thoroughly understood by a perusal of the whole of this Report, since it is to this end that all our observations tend. At present it may suffice to say, that the suitableness of any particular case was not determined by the mere form of the disease which it presented. The treatment was found to be

adapted to primary cancers, with or without disease of glands; to some Cancers which were both ulcerated and adherent; to some which had recurred after operation; and to some in which relief could be afforded to the patient, although the whole disease could not be removed. Each case required a separate consideration as to its fitness for treatment: and, perhaps, after all the most instructive lessons which could be given upon the point were those furnished by cases in which it was thought unadvisable to adopt the treatment.

To illustrate the grounds on which certain cases were selected, and others rejected, we will mention here a few instances: referring, at the same time for further information, to the Appendix.

CASE I.

Scirrhus of the breast, considered unfit for treatment.

Frances S—, æt. 62, came from Cambridgeshire for treatment. Her left breast formed a very large, prominent mass of scirrhus, measuring seven inches across by six vertically. The skin was adherent over almost the whole tumour, and was bossy and violet-coloured, the veins in it being of permanently large size. It was adherent to the ribs, apparently by the greater part of its base. It was nearly divided into two parts, across its lower third, by a horizontal ulcerated cleft, and the abruptness of the upper wall of this cleft added much to the apparent prominence of the tumour. Thin cicatrices formed the sides of the cleft, but the bottom of it was ulcerated, and gave forth a scanty, offensive, thin discharge. There was an enlarged scirrhouss gland in the axilla. The whole disease had existed ten years, and the ulceration fifteen months. She did not appear to suffer pain, and was in vigorous general health. No operation or other treatment had been adopted, and her impression was that the mass was not growing, but diminishing; it did not appear certain, however, but that this impression arose from the removal of some of the tumour by ulceration, rather than from cessation of its growth.

The case was considered unfit for treatment, and the patient was sent back into the country. It appeared to us that the whole disease could not be removed without portions of the ribs being also taken away ; that it was uncertain if the tumour could be eradicated from the adjoining skin ; and that a patient, in whom the disease possessed comparatively so little virulence, interfered so little with the general health, and advanced so slowly in its fatal career, would probably enjoy a longer and an easier life, if it were left untouched.

CASE II.

Scirrhus, with Cancerous Affection of Skin and Glands.

Elizabeth L—, æt. 47, was admitted July 21, for scirrhus of the left breast. She had always before enjoyed good health. Five months ago she observed a lump on the inside of the nipple : it enlarged gradually, and now the whole mamma is occupied by a tumour, which is hard and heavy. The skin generally is adherent to the tumour ; it is oedematous and firm, and red over the apex : the adjacent skin, also, beyond the boundaries of the tumour, is mottled and streaked with red. A thick cord of condensed cellular membrane can be traced, in the line of the lymphatics, from the mamma to the axilla ; where small hard glands, like marbles, can be felt. In the triangular space above the clavicle the glands are sound. On consultation it was agreed that the case was unfavourable for treatment, there being no probability of the wound healing after the removal of a disease, in which the skin took so active a part.

CASE III.

Cancer of the Breast, and Abdominal Tumour.

Anne B—, æt. about 70, an emaciated, pale, and enfeebled person, came to the hospital March 3. She was very deaf, and was brought by her friends on account of a cancer of the breast, and diarrhoea. In one breast was a small, flattened, very hard tumour, an inch and a half in diameter. It was easily felt in the

wasted tissue of the breast, and though adherent to it, was unattached to the chest or pectoral muscle. It was free from pain and tenderness, and did not appear to be growing. On the right side of the abdomen, reaching as high as the liver, was a large, very hard, tender tumour, of the existence of which neither she nor her friends appeared to be aware. It was covered in front by the bowels, and could only be felt by pressing them back upon it. Her diarrhoea was constant and exhausting, and was arrested with difficulty. The cancer of the breast being but of secondary importance, as compared with that in the abdomen, the treatment was of course not adopted in this case, and she died deeply jaundiced at the end of the month.*

Two cases of somewhat similar character, lately under our care, illustrate well, by contrast, the advantage of the treatment, and its fitness for such a stage of the disease. In each patient a mammary and an axillary mass of cancer existed ; in each the tumours were adherent, and separately ulcerated ; the degree of malignancy appeared as nearly as possible alike in the two cases : emaciation had reached about an equal degree in both patients : yet the comfort of the one was materially augmented by the adoption of the treatment ; in the other, who was not subjected to it, the local suffering increased, instead of being relieved. The one patient lives, having, as we believe, had her life prolonged by the treatment ; the other has died.

* The principle on which this case was rejected is so evident, that it would seem almost unnecessary to have inserted it. Our reason for doing so is that we understand that some persons, who were not aware of the facts, attributed the death of the patient to her having been treated on the plan now under review. She died of the disease in the abdomen ; the disease in the breast was not treated at all, unless the application of an ointment of lead to the skin can be called treatment.

CASE IV.

Case in which the Treatment was declined.

Ann S—, æt. 53, was admitted in March, as an out-patient. She has had cancer of the right breast for 5 years, and the disease had been removed by operation at the Charing Cross Hospital two years after its appearance. When admitted into the Middlesex Hospital, she had an ulcerated mass of cancer at the upper part of the scar, and a cluster of hard, adherent, and deeply ulcerated glands, filling the axilla. The skin in the axilla was very contracted, and the arm cedematous.

July.—None but palliative treatment has been adopted in this case. The local disease has increased by about half its former size, but no new character has presented in it. Painful dyspnoea and exhaustion have come on, and she has been admitted into the hospital. Pleuritic friction sounds are heard on the right side of the chest, and signs of bronchitis on the left. The lower parts of the chest and ensiform cartilage are much contracted, and the dyspnoea does not yield to treatment, but is becoming urgent.

Toward the end of the month she died, and some small secondary Cancerous deposits of cancer were found in the lungs, liver, and kidneys.

CASE V.

Case in which the Treatment was adopted.

Mary B—, æt. 66, has had cancer of the right breast three years, and a mass filling the axilla for 12 months; both of which began to ulcerate six months ago. She had undergone no operation, and suffered no pain; in other respects the local appearances were very similar to those of the last-mentioned case.

The tumour of the breast was entirely removed by the paste, and a healing wound occupied its place. The mass in the axilla was then treated in the same way, and is, at the time of issuing this Report, partially destroyed. It appears unadvisable to pursue the disease further into the axilla, as it is deeply connected with the vessels and nerves of the arm, and she complains of new pains in it. These are plainly not due to the treatment, but to the situa-

tion of the disease, for they continue when no applications are made to it. The patient's general health has by no means deteriorated, as in the case of Ann S—; on the contrary, it is somewhat improved. In this improved condition she has since been sent home.

The general principles upon which, according to our present convictions, cases should be selected for the treatment, will, we think, be gathered from these descriptions. As we have before expressed, the treatment may be adopted in any case in which Surgeons now use the knife. It may also be adopted in cases when the removal either of the entire, or even of only a part of the diseased structure will improve the condition of the patient, in respect to the local malady. It is unsuitable for patients, in whom the skin shows any disposition to assume the cancerous action, and for those in whom active cancerous growth is proceeding in parts beyond the original seat of the disease. Moreover, where constitutional cancer can be proved to exist, it is very questionable whether it may not prove injurious. The simple fact of rapid growth in the external tumour does not of itself preclude having recourse to the treatment.

Estimate of the Value of the Treatment.

It now remains for us to express the general conclusions which we have at present been able to form, as to the value of the method of treating cancer which we have just described.

Our opinions may be arranged under the following heads :—

- I. The Constitutional Effects of the Treatment.
- II. The Local Effects of the Treatment.
- III. A Comparison of this Treatment with that by means of the Knife.
- IV. A Comparison of this Mode of inserting Caustic by Incision with other Modes of applying Caustics.

I.—The Constitutional Effects of the Treatment.

We take this question first, that we may be able to pursue our inquiry into the efficacy of the local treatment, with a clear understanding how far it may be modified by contemporaneous changes in the constitutional state of the patients.

The question then branches into two parts. *a.* The effect of the local treatment upon the General Health : *b.* The special power of the internal remedy over the Cancerous Diathesis.

*a. As to the General Health of the patients :—*In not a few instances it has positively improved under the treatment. This remark applies universally to cases of ulcerated mammary cancers, in which the removal of the fætor, and the conversion of active growths into dead

eschars and healing sores, was attended with a manifest amelioration in the aspect and appetite of the patients. It applies also to some of the cases of primary cancer; but not to most of those patients who took opiates to assuage their pains and procure sleep, nor, of course, to those in whom the treatment failed to arrest the progress of the disease. In the last cases, the general condition of the patients was made worse than it probably would have been, in an equal time, if the disease had been left to itself.

*b. As to the special power of the internal remedy over the Cancerous Diathesis :—*If, in the progress of the cases which have been under our care during the last six months, we had obtained any evidence that the paste showed a special power over cancerous substance; that it selected the morbid material for destruction, and spared the healthy tissues; or even that it destroyed the healthy tissues less readily than the cancerous, we might have looked upon such a fact as *prima facie* proof that some one or all of the ingredients of the paste might possess a control over the constitutional nature of cancer. But we are absolutely without such evidence. The paste has no such limited action. There is, indeed, an appearance of a limited action, when the base of a tumour rises from its bed during the progress of the paste through the superficial layer of the mass; but it is an appearance only. The elevation of the base is due, not to a selection of the diseased substance by the remedy, but, as we have shown, to the shrinking of the eschar. It is a mere mechanical result of the connexion between that part of the tumour which is superficial and contracts, and that deeper part which is drawn towards it. The distinction

is plain, and we cannot assume, from such a circumstance, the specific power of any ingredient of this paste over cancer.

Our observation, hitherto, of the effect of the sanguinaria root, taken internally, has led us to the same conclusion. No single fact that has come before us would arouse the suspicion that constitutionally it has any effect, one way or the other. Under this, as under previous modes of treatment, Cancer retains its notoriously malignant character ; that is to say, its capacity for spontaneous and destructive growth in its primary seat, for obstinate recurrence after what has appeared to be the most complete extirpation, and for progress, if not for reproduction, in other and, it may be, distant organs of the body.* The degree of that malignancy has varied in different cases. Each case has had, and maintained throughout the period of our observation, a character of its own, a specific character, as distinct and appreciable as we have been accustomed to recognise in similar cases which had been subjected to other treatment, or to no treatment at all. The use of the sanguinaria has not altered that character. It has impressed no new or unusual feature upon individual cases ; nor, consequently, has it produced, in the whole of them looked at together, anything like an uniformity, an approximation to one character, such as would be

* Although there have been, amongst our Cases, instances in which cancer of internal organs has coexisted with the external disease, and has made progress during the treatment, yet we feel bound to state, that hitherto we have been unable to distinguish the actual commencement of internal cancer, in any of the patients, during the period in which they have been under our observation—a period, however, of from two to four months only, in each case.

expected from the universal employment among them of one single remedy. All the cases have followed known habits of cancer; and the inference from this fact necessarily is, that the sanguinaria root exerts no curative power over the constitutional nature of Cancer.

Whilst avowing our present judgment of the inefficacy of the blood-root in the management of the Cancerous Diathesis, we see no objection to further and much more extended observations of its effects in that disease. It is evidently a powerful remedy, and as an emmenagogue, is, perhaps, equal to any drug now employed in England. But our hope of its usefulness in Cancer is very small; and that becomes less still, when we remember that Dr. Fell himself never suggested that patients should continue the constitutional treatment after the extirpation of the local disease and the healing of the wound, and never advised the use of the sanguinaria-pill in cases of internal cancer, or of those external malignant tumours which were rejected as unfit for local treatment.

II.—The Local Effects of the Treatment.

a. Inflammation.—The inflammatory excitement in the living parts adjoining the eschar was usually slight, and rarely produced an appreciable swelling, except in voluminous and pendulous breasts. A bright red halo speedily formed around the surface charred by the nitric acid, and remained, gradually losing brightness and breadth, until the line of demarcation had formed through the skin. The redness then subsided altogether; the living edge of skin became hard and elevated; and the structures around seemed somewhat unnaturally free from vascularity and tenderness, and slowly shrank.

The existence of inflammation in the deeper parts, as the eschar extended amongst them, could only be surmised from the satisfaction which all the patients expressed on using a cooling lotion. The inflammatory process always expended itself in the immediate neighbourhood of the eschar, and led to no secondary abscess, or other evil there or elsewhere.

b. Effects upon local cancerous energy.—The influence of the treatment in aggravating or controlling local cancerous action did not appear to be uniformly the same.

In some cases, the treatment seemed to give rise to a rapid deposit of new cancerous material. A primary or secondary growth, increasing with a given rapidity, would suddenly enlarge, spread, and involve neighbouring structures, particularly the glands and skin; so that, after a few weeks' treatment, a state of the disease was induced, which was far worse than could reasonably have been expected, if the first growth had followed its natural course.

In other cases, though rapid growth took place during the treatment, it was not aggravated, and could be finally overcome.

In a third class of cases, the previously rapid growth seemed to be brought to a check.

In none of these cases, however, did it appear that there was any special effect, but only such an one as might be expected from the application of any powerful local irritant—which will sometimes excite general action, and at other times limit action to the part at which the irritant is immediately applied. This was well seen in the cases in which the removal of the primary tumour was followed by a considerable diminu-

tion in the size and activity of the secondary glandular disease.

In a few cases of cancer of the breast, the extirpation of the primary tumour, and the complete, or almost complete, healing of the wound were followed by a somewhat tumid condition of all the parts around the scar. This swelling was always most distinctly marked in the situation of the pectoral muscle; and seemed to be occasioned by an oedematous condition of all the subcutaneous tissues of the trunk for some distance around the cicatrix and axilla, as well as of the deeper structures beneath the pectoral muscle. No recurrent cancerous tumours could be detected in these cases, and no diseased axillary gland. The patients are still under observation.

c. Pain.—We have reserved this subject for separate consideration, as being of itself one of the most important questions relating to the treatment. There can be no doubt that there was pain in all the cases. But pain is, *cæteris paribus*, far from being the same thing to all persons. During the greater period of the treatment, some patients, according to their own statements, suffered very moderately indeed. It becomes necessary, therefore, to understand definitely the nature and the causes of this symptom in different cases, since possibly a certain amount of it could be prevented.

The amount of pain bore no relation to the size of the tumour, and to the extent of surface to which the paste was consequently applied. Some of the largest cancers were those which were destroyed with least pain,—with pain which sometimes the patients seemed scarcely to care to own; while their countenances confirmed the statement that they were almost at ease. Nor did it make a

difference to any one patient, whether the paste were lavishly or sparingly applied : the experiment was often tried on different days, but the patient was not aware of a difference in the subsequent pain. The severest suffering was that attending the treatment of epithelial cancers, especially of the face, on the ulcerated surfaces of which even the diluted paste could scarcely be endured. Some patients so suffering were obliged to give up the treatment, and leave the hospital unrelieved.

The action of the acid was, in almost all the cases, acutely painful. The severity of it, however, did not last many minutes, and was always relieved by the application of cold. In a few cases, in which the surface to be destroyed was extensive, chloroform was administered. The pain attending the use of the acid was materially relieved, if the surface were first frozen by the application of mixed ice and salt.

Unnecessary pain always followed incomplete destruction of the skin by the acid. The contrast from former complaint was very marked, so soon as the paste began to act on the sub-cutaneous, instead of the cutaneous textures. In the same manner, the characteristic and severe pain would come on in the course of the treatment, if the paste trickled over an excoriated surface of living skin, or otherwise destroyed that sensitive structure. We have, in fact, no hesitation in ascribing much of the worst pain to the inadvertent destruction of a fresh portion of skin.

The progress of the paste through the cancerous tissue itself appeared to be the least painful part of the treatment.

The pain suffered by some patients was clearly aggravated by causes independent of the treatment. Thus,

the only patient with cancer of the breast who declined to allow the extirpation of diseased glands from the axilla, because of the suffering she had experienced during the removal of the breast, was one who lived at a considerable distance from the Hospital, and rode to and fro every day during the period of dressing. Again, the cough attendant on an attack of bronchitis in one patient so shook the breast as to occasion considerable suffering. Pain in a third case was much increased by the eschar having been formed at the fold of skin in front of the axilla. And women with large pendulous breasts always suffered more than others.

Independently of pain arising from these accidental causes, there was also that which was the direct consequence of the action of the remedy; but we find much difficulty in defining its exact and inevitable amount. If we compared two cases in which the condition of the local disease appeared nearly the same,—cases of very large and very rapidly growing cancers of the breast,—there was found an unaccountable difference in the amount of suffering. The one patient slept but little, and always approached crouching, cautious, and holding the breast with one hand; the other never acknowledged to pain which could be called severe, and said that she was free from it for hours together. She coughed roundly and shook and moved about the enormous eschar and breast without reserve, having plainly but little suffering of any kind.

The character of the pain which appeared directly attributable to the action of the paste, was generally a continuous “dragging,” or “drawing,” or “aching” in neighbouring, or distant parts, and a sense of heavy pressure on the part itself. The weight was variously esti-

mated by different patients, according to their sensations, at from four pounds to a hundredweight. One spoke of "smarting," but not in the breast itself. None suffered that overwhelming and violent pain, of which patients accuse the escharotic chlorides, when extensively applied. The pain appeared to be in great part a reflected sensation from the nerves in the eschar, which, as they manifestly resisted the action of the paste much more than did the other tissues, were irritated by it, without being at once destroyed. Perhaps it was on this account that, at the conclusion of the treatment, there was at first but little cessation of this peculiar pain, and that little relief, if indeed any, was afforded by intermitting the applications for a day.

The severest pain, the pain least controllable by opiates, appeared to us to be that which occurred during the separation of the eschar; and we refer its severity to the singular circumstance, that living nerves cross the line of demarcation, and are thus exposed to violent traction and irritation.

There was in no case any appreciable injury to the constitution from the pain; though there can be no doubt that its continuance for any great length of time in the degree which some patients experienced, would have been of serious consequence, and that remissions of the treatment must have taken place. These, however, were for the most part cases amenable to no other mode of treatment; such as epithelial cancers of the face, and of the skin in other parts. No instance of fainting, upon the removal of the eschar, occurred to us, as we have been informed, has happened elsewhere in persons advanced in life. We have constantly observed much agitation of mind to occur when the dead mass has been

removed, accompanied by a feeling of intense relief from the acute distress just previously experienced ; but in no case has the joy of the patient, or the sudden removal of her pain interfered, or threatened to interfere, with the action of the heart.

Considering the whole subject of pain, our observation leads us to say that, as a general rule, it was severe at some time or other in every case ; that in the majority, it was constant, but bearable ; that in a few it was very severe ; whilst, in yet a few others, it even intermitted, and was moderate in amount. Still the majority of the patients required opiates to procure them sleep. We are of opinion that so much pain is felt, as to call for further study of its causes, and the best means for its relief ; but that it is rarely of such severity that patients, on its account, should be deprived of the eventual advantages of the treatment.

III.—Comparison of this Mode of Treatment with that by the Knife.

The period of six months is far too short to enable us to solve questions of great moment, in the comparison of these two modes of treatment. Our observations, up to the present time, direct us to the following conclusions.

We believe this system of combined caustics and gradual incisions to form at once so efficacious and so manageable a method of treating cancer, that there is no form or position of an external tumour, which would render its extirpation impossible. The depth, the extent, the rate of advance, and the direction of the treatment are all entirely within control. Prudence alone limits the application of it. In saying this, we are aware that

we claim for the treatment a credit which is not due to the knife, or indeed to any plan previously in use. For, although the knife has abundantly proved its value in those cases, for which it is rightly adapted, yet it abandoned many more to their natural and fatal issue. The adhesions, or the extent of the disease rendered numerous cases unfit for operation by the knife. This system of gradual incision, however, is suited to them all. It is suited to all in which the knife may be used, and to many more. It is not, indeed, every case, even of a moveable tumour, which should, as we believe, be interfered with by this treatment, any more than by the knife. For the notion of the blood-root exerting any influence over the constitutional nature of cancer being got rid of, we are left, as of old, to study the particular malignancy of each case, and to select for treatment those which may be benefited from those with which any interference will do harm. Compared with the knife, then (we postpone the comparison with other modes of using caustics), the method we are considering claims a superiority, as regards the number of those afflicted with external cancer, who may be relieved by surgical treatment.

Now, as respects those cases which are equally adapted for either treatment,—should the newer mode supersede the old?

That the system of combined caustics and gradual incisions should in all cases be preferred to extirpation by the knife, is more than we need assert; since in fit cases the removal of the tumour can be effected by either. The cases in which the greatest difficulty in settling the question will be found, are those in which the growth, having been very rapid, will probably continue to be so during the progress of the treatment.

In such cases, the enucleation of the tumour by the new method will, under the most favourable circumstances, be unusually protracted. The probability is, however, that a recurrence of the disease will take place equally soon, whichever plan be selected.

In other cases, in which the question of removal by the knife would have been raised at all, the new method of treatment has seemed to us preferable. Our reasons for this opinion are those already stated at page 10, in the clauses numbered IV. and V.

One advantage possessed by the gradual insertion of the caustic by incisions over the operation is that, in the event of a speedy recurrence of disease during the healing process, or in the cicatrix, a repetition of the application of the caustic, over and over again, may be made without risk, and without the mental shock which attends the use of the knife a second or a third time.

The question can hardly be settled by a statistical comparison of fatal results. For, on the one hand, the extent of mortality traceable directly to the employment of the knife, is not universally recognised and agreed on ; it differs greatly in different hospitals and in different countries : and, on the other hand, it would be rash to draw conclusions from observations made on less than a hundred cases, during a period of only six months, and in a hospital remarkably free from outbreaks of Erysipelas and Pyæmia. The facts before us simply are ; 1. That but one death has been attributable to the operation by the knife, in the period of nine years that has elapsed since the reconstruction of our hospital ; and 2. That no death has occurred in consequence of the new treatment under consideration. So far as our observation goes, this proceeding by caustics is altogether

free from risk to life, and from liability to blood-disease. We cannot, however, foretell its results in other hospitals and under other circumstances.

With regard to the numerical results, hitherto observed, in respect to the aggravation and recurrence of the disease :—twenty-one of our cases appeared to have been adapted for the use of the knife ; one of them was aggravated by the introduction of the paste, and was soon discovered to have been originally unfit for any treatment. In two of the cases, disease appeared behind the pectoral muscle, while still under treatment. The tumour was extirpated in ten patients, but in three of them cancerous tubercles formed in the adjoining skin, and a fourth has returned to the hospital, after an absence of three months since the wound healed, with a fresh tumour in the substance of the breast. One patient was sent home for a few weeks, it being doubtful if any disease remained or not. The remainder are still under treatment.

It is in regard to this important question—the interval that may elapse before the return of the disease—that we necessarily feel the need of further observation of the cases ; since time only will allow of a complete comparison between the two modes of treatment. No delay, however, is required for concluding, from the numbers just given, that in this point of view the new plan of treatment is not superior to that by the knife. There has already been a return of the disease in four out of the fourteen completed cases, and a failure in extirpating it in three others out of the whole number of twenty-one. On the other hand, looking to the character of the recurrent disease, neither can we say that the newer mode is proved as yet to be inferior to the knife.

IV.—Comparison of the Mode of inserting Caustic by Incisions, with other Modes of applying Caustics.

It cannot fail to strike those who uninterruptedly watch cases subjected to the mode of applying caustics by incisions, that, in several particulars, their progress and results are all but identical with what is observed in the ordinary employment of caustics. The morbid growth is in both converted into an eschar. That eschar is thrown off by the action of the living parts. The healthy structures appear little prone to resent the caustic applications, however made; and inflammation, abscess, erysipelas, and purulent infection are all but unknown consequences of their use. For like reasons in both methods there is no haemorrhage. The effect upon the local cancerous disease, which follows the introduction of the paste by gradual incisions, is in its very varieties precisely that attending the ordinary use of caustics. There has been in some of our cases, the same aggravation of disease, as followed the caustic treatment of Dr. Llandolfi. There has been in others, the same beneficial effect upon the secondary disease of glands, which is often seen to follow the removal of a primary tumour by the ordinary use of caustics.

But there are these differences. The pain attending Dr. Fell's plan is decidedly less. The proportion of the escharotic in his paste is greater than that in other caustics composed of the chloride of zinc, e.g. in Dr. Canquoin's preparation. The chloride is mixed with a new ingredient. Lastly, the paste is introduced in a different manner.

With respect to the comparative *Pain*, we may at once state that of the many cases which have been under our care in the past six months, there has not been one,

in which any of us would have resorted to the ordinary use of caustics for the extirpation of the local disease,—so dreadful is the suffering attending their use. By the invention of the method of introducing caustics by gradual incision, a very important advantage is gained: it admits to the benefit of treatment an entirely new class of those who suffer from Cancer—a class hitherto almost universally abandoned, at least in England—we mean, patients precluded, by the judgment of the surgeon, or it may be by their own choice, from the use alike of the knife or of ordinary caustics. In the cases now reported on, the majority of the patients were of that class, and in none was the value of the treatment more conspicuous. The average of pain was in these very patients the least: and nothing could be more striking than the contrast between the distressed condition of such patients before they were treated, and their comparative ease afterwards; healing sores or temporary scars taking the place of foetid, tender discharging, and constantly growing masses of cancer. Every such patient restored to comfort, and with life prolonged, is a witness to the value of this treatment; and we cannot but esteem him happy, who could thus suggest and adapt to practice a method by which life and ease are extended to many persons previously without hope of either. That there are still cases so virulent in their malignant character, or so far advanced towards a fatal termination, as to be beyond all help, does not detract from its merit. This plan of treatment is a clear advance upon the past, and may not only be itself improved, but may be the way to more extended blessings upon a class of the community now signally distressed.

The *Time* occupied in the complete extirpation of a tumour by the incisions, is generally longer than when caustics are used in the ordinary way. We are not, however, prepared to say that there is any further disadvantage in this than the mere fact of delay; or that the probability of increasing local cancerous action is greater by the milder and more continuous application of the chloride. The recorded results of the very slow process of treatment peculiar to Mr. Justamond,* and of the practice of employing as a caustic Burnett's disinfecting fluid, would incline us to think that there is rather an advantage than a disadvantage, in a very slow destruction of cancerous tumours.

Sanguinaria.—The presence of a new ingredient in this caustic paste would seem to call for an inquiry into its nature, and its mode of action in cases of cancer. We have, accordingly, endeavoured to ascertain the value of the sanguinaria, employed alone, as a topical application; and our knowledge of its efficacy is expressed in the following facts.

Applied in a decoction of the same strength as that used in making the paste, it showed no power whatever of altering the appearance of healing sores on the leg. It neither repressed the granulations, when they were exuberant, nor impeded the formation of those which were healthy. On the contrary, sores granulated and cicatrized under it, as they might have done if treated with water-dressing; and granulations formed, and rose above the level of the edge of the sore, in spite of the alleged power of the root to destroy fungous growths.

Applied in powder, daily and freely, upon a sore on the leg covered with large granulations, and rising con-

* See Appendix, p. 53.

siderably above the surrounding surface, it did not, in a week, at all lower the level of the sore, but the granulations covering it became small and healthy. The patient was a young man, just admitted into the hospital, and was kept in bed during the treatment.

In Case 50, the effect of the sanguinaria decoction upon cancer was contrasted with that of the chloride of zinc, in the same patient; and it was found that the diseased tissues shelled off in somewhat larger flakes, with greater frequency, and with more pain under the use of the sanguinaria. The two fluids appeared to have equal power in correcting the foetor of the morbid parts.

Its effect in the Case of a very large ulcerated cancer of the breast, to which it was applied in powder for the period of a fortnight, was to destroy the vascularity of the surface of the sore, and change its appearance into that of whitish non-vascular lymph, to diminish considerably the quantity of the discharge, the consequent foetor, and the pain. Upon employing, for ten days subsequently, a lotion of conium and opium, without the sanguinaria powder, the foetor returned, and some of the discharge; but there occurred no appreciable alteration in the character of the ulcerated surface.

In a Case of very large encephaloid tumour, with deeply excavated ulcers, formed on the left os innomina-tum of a middle-aged female, the decoction of sanguinaria was employed with the effect, not only of diminishing the quantity of discharge, which had previously been profuse, but of removing the offensive odour and cleansing the surface.

Further than this, we have made no inquiry into the powers of the sanguinaria as a topical remedy. For the purpose of destroying cancers it appears to be practically

inert. Such effects as those described would probably be produced by many other woods employed in the form of powder. The metallic is confessedly the efficacious part of the paste; since Dr. Fell himself, finding that "months of continued application of the sanguinaria were requisite to remove a tumour by its means," abandoned it as a solitary remedy for that purpose, though he retained it for some specific control which he supposed it to have over cancerous matter and action. It will also be gathered from what we have said, when comparing the action of the paste with that of caustics in general, that we attribute none of the power of the former to an agent so feeble in its action as the sanguinaria.

Incisions:—The last peculiarity of this treatment is the practice of incisions; and we are of opinion that this is its only, but its very great merit. The sanguinaria is inert; the chloride of zinc paste was known before; but the incisions constitute a new feature in the treatment of cancerous tumours, for which we find no parallel in the writings of the past, or in the practice of present surgeons. Cancer, in its constitutional nature, remains as ruthless and as unassailable as ever. Chloride of zinc may, or may not continue to be used for the destruction of the local disease. But the advantage placed in the hands of surgeons by the invention of gradual incisions, claims henceforth their very frequent adoption in the treatment of cancerous tumours, as well as a grateful acknowledgment of the ingenuity of their inventor.

(Signed)

ALEXANDER SHAW.

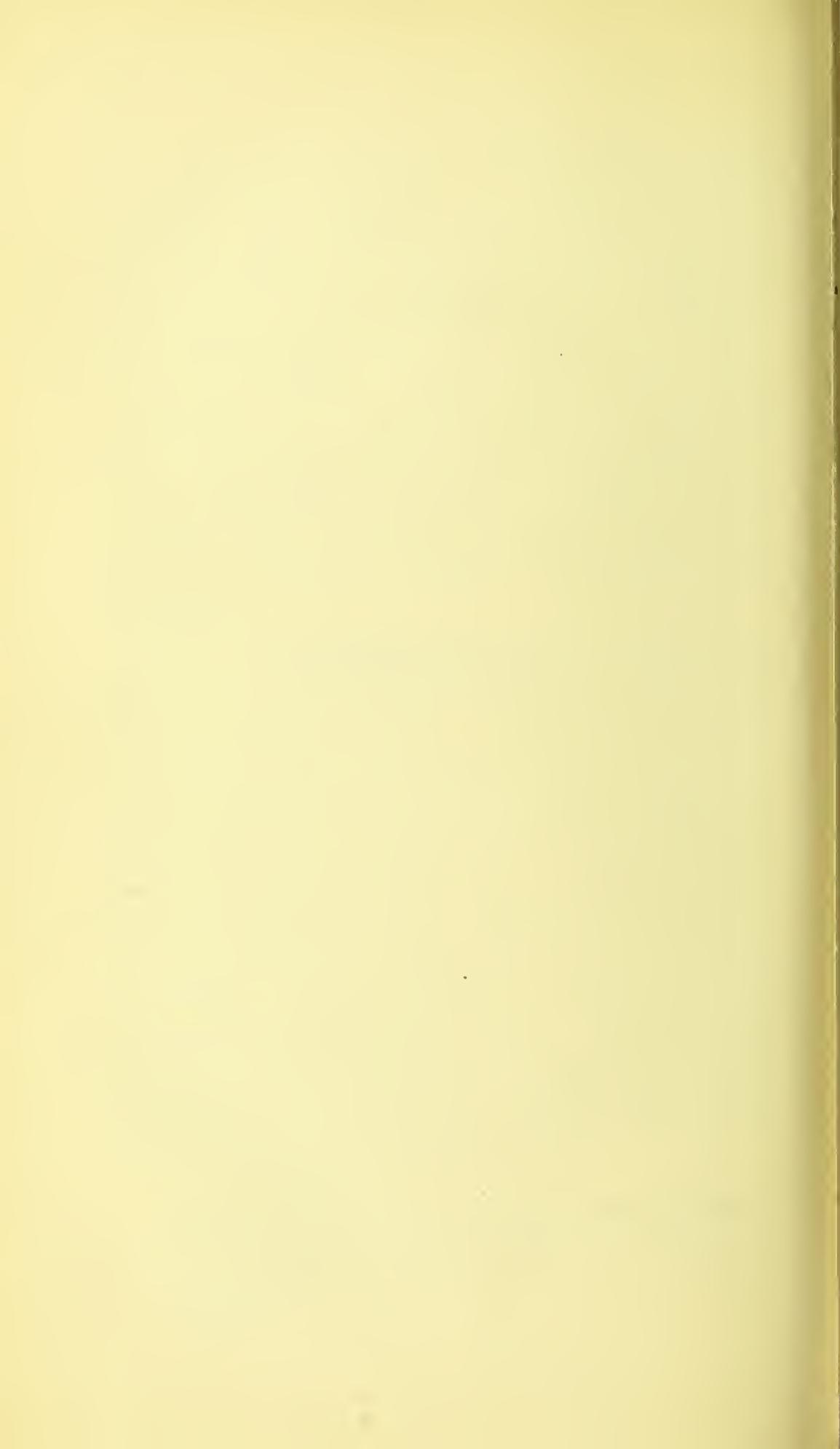
CHARLES H. MOORE.

CAMPBELL DE MORGAN. MITCHELL HENRY.

August, 1857.

Browne!

A P P E N D I X.



APPENDIX.

THE treatment of a Case of Cancerous breast, towards the end of the last century, by Mr. Justamond bears some resemblance to the mode of Dr. Fell, inasmuch as scarifications were made in the eschar, and filled with a caustic application. Upon a perusal of the whole Case, however, it will be evident, that the gradual destruction of a cancerous growth by progressive incisions, and the repeated introduction of a caustic into them daily, for weeks, was far from his thought. We subjoin the whole case, as extracted from his writings:—

“ In one of the schirrous tumours, in which I had “ tried the fore-mentioned methods without success, I “ resolved to attempt the extirpation of it by the arseni-“ cal caustic. My patient was extremely timorous, and “ would by no means be persuaded to submit to the “ operation by the knife. She had a very hard stubborn “ schirrus in the right breast just above the nipple, of “ the size of a small apple, and beyond this a small “ indurated gland under the axilla. The arsenical pre-“ paration I used in this case, was composed of one-third “ of antimony and two-thirds of white arsenic fused to-“ gether. This being reduced into impalpable powder, “ a few grains of it were mixed with as much powdered “ opium. But as the skin was entire, and as I knew the

" arsenic would not act through the cuticle, the day
" before this powder was applied I rubbed the whole
" surface of the gland gently with the lunar caustic. By
" this contrivance the cuticle was easily separated next
" day, when mixing a small quantity of the powder with
" part of the yolk of an egg, so as to bring it to the con-
" sistence of an ointment, I spread this upon a pledget
" cut to the size of the gland, and applied it to the whole
" surface. The pain was very great for the first four-
" and-twenty hours, but after that subsided. I left this
" first dressing on for several days, when seeing it ready
" to drop off, I removed it, and found that all that part
" of the skin on which the caustic had been applied
" was cracking all round, and the tumour beginning to
" separate. In expectation of facilitating this separation,
" I made a few scarifications on the destroyed surface,
" and filled the crevices with more of the powder, apply-
" ing over it a pledget of the same kind as the former.
" But this second application did not, as I imagine,
" produce any effect, for it caused no pain. I then
" waited a few days to observe what would happen. The
" separation began to take place more evidently at the
" edges, which now looked florid, though the tumour
" did not yet seem ready to come away. To hasten this
" event, I judged it proper to put some of the powder
" all round the separating edges, and as low down as it
" could be insinuated between the diseased gland and the
" sound skin. I soon found that this contrivance had
" its effect, for the pain it occasioned was more violent
" than that produced by the first dressing. I was, how-
" ever, obliged to repeat the application of the powder
" to different parts of the edges at intervals, but never
" in so large a quantity as before. By this method the

" separation of the tumour was effected in little more
" than two months, and the gland came out entire as a
" nut out of its shell, or as if it had been cleanly dis-
" sected with a knife. The small gland under the arm-
" pit I had put nothing to, thinking it would dissolve
" by the suppuration of the larger one, but in this I was
" mistaken ; it still remained, but this circumstance
" did not prevent the wound made by the separation of
" the larger gland from healing very fast after it had
" come out. Seeing the small gland still exist, after
" the healing of the wound, contrary to my expectations,
" I was very sorry I had not treated that in the same
" manner as the large one, and at the same time ; which
" might have been done with great ease, for it was so
" small that the patient would not probably have received
" much additional pain from it. I endeavoured to per-
" suade her to let me apply the caustic upon this little
" swelling after the wound was healed, but I could not
" prevail. She was so well satisfied with having got rid of
" the most material part of the disease, and being freed
" from the pain which that gave her, and so fearful of
" going through the same violent pain again, that she
" chose rather to remain with it as it was. I saw her about
" a year and a half after this, when she was in perfect
" health ; the little gland under the arm-pit remained,
" but it was neither increased nor decreased in size.
" She suffered no pain from it, and there was then no
" other appearance of the complaint.

" This is the only instance in which I ever attempted
" to *draw out* the schirrous gland, as it is vulgarly called.
" I have heard some eminent physicians say, that it was
" a desideratum in surgery to know how to do this as
" Mr. Guy did. Whether Mr. Guy's method be the

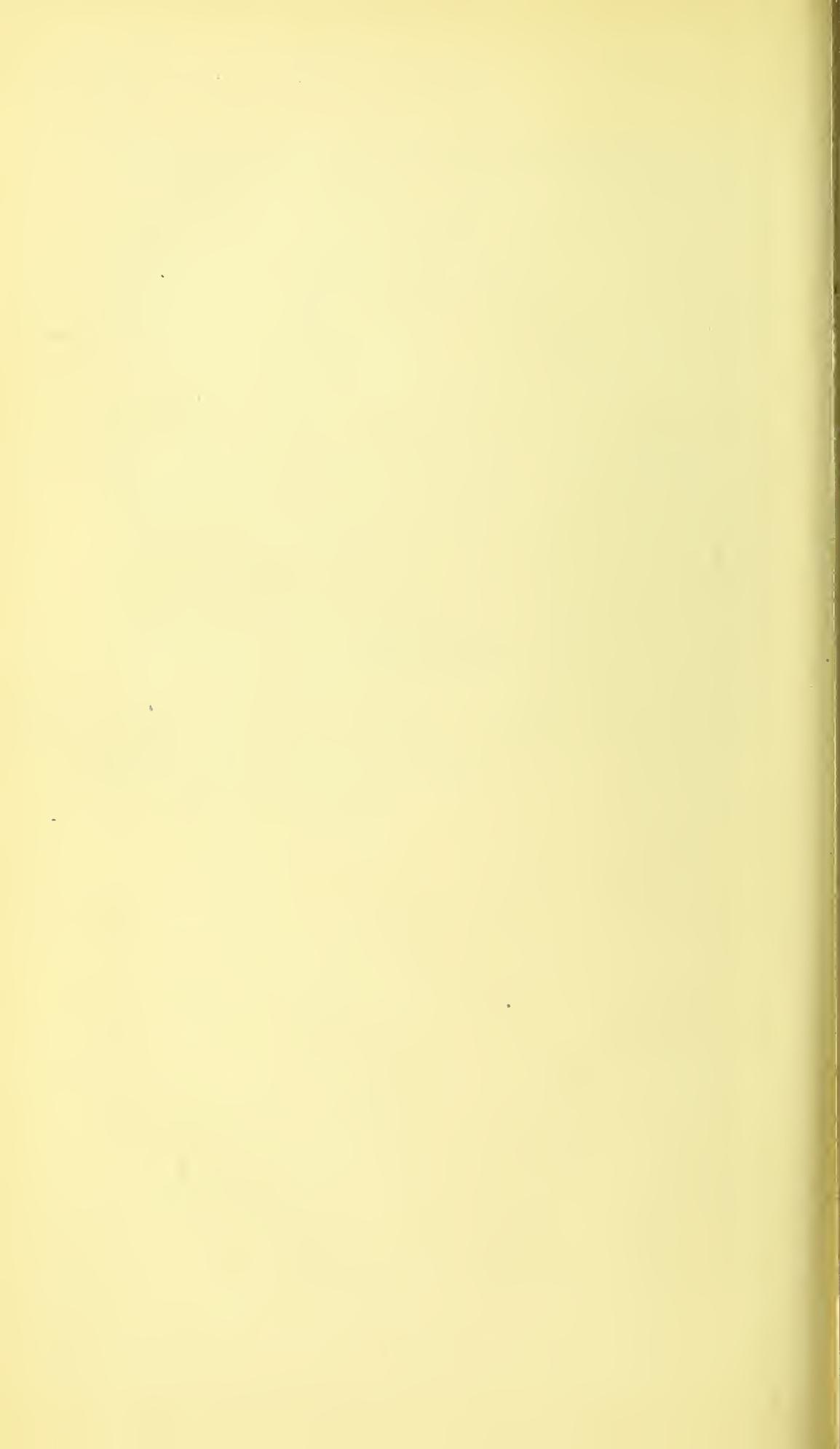
" same as Mr. Plunket's was, as it is imagined, I can-
" not take upon me to determine. I shall only observe,
" that here is an instance of the same thing being done
" by a method very different from Plunket's, though
" essentially perhaps the same, with regard to the chief
" remedy that seems to produce the effect. That effect,
" by whichever of these methods it may be brought
" about, or however painful may be their operation, is
" certainly a very surprising one; and may be of advan-
" tage, not only with respect to many timid persons who
" cannot reconcile their minds to the terror of the knife;
" but may also be of utility in some cases where the
" knife cannot be used with safety. I shall be happy if
" the advances I have made in this point should induce
" my brethren to turn their thoughts to this kind of
" operation, which, if it were once rescued from the
" hands of empiricism, might not only become more
" certain under the directions of a man of learning, at-
" tention and experience, but might probably be rendered
" more mild in its effects. To facilitate the attempts of
" others in this matter, I shall observe that I was not
" satisfied with my method of doing it, though it suc-
" ceeded. I thought the operation too slow, and that I
" was obliged to renew the application too often, which
" not only prolonged the pain, but likewise made it ne-
" cessary for me to use a greater quantity of arsenic, and
" to continue it for a longer time than I could have
" wished. It might perhaps succeed better if the powder
" were made more active. For this purpose I should
" prefer the crude arsenic to that which has been fused
" by heat. Neither is it necessary, perhaps, to blend it
" with sulphur, which only serves to weaken its opera-
" tion; for a very small portion of arsenic when mixed

"with the yolk of an egg may be applied to a pretty
"large surface; and if we wish to divide its particles and
"spread a small quantity over a larger surface, this may
"as well be done by adding some testaceous powder to
"it, which will have this effect without altering its pro-
"perties. I would also recommend the corrosive subli-
"mate to be joined to it, for although this combination
"quicken's its operation very considerably, yet I am
"convinced from experience that it adds very little, if at
"all, to the pain caused by the arsenic. One thing
"further I must observe, which is, that when a schirr-
"ous gland becomes ulcerated in one part, and that the
"induration subsists with the skin entire much beyond
"the ulceration, the application of arsenic in this case
"upon the ulcerated part of the gland seems to act no
"more than any other caustic does, except that its effect
"may be more extensive, and destroy more of the gland.
"But it does not, as in the instance just recited, dispose
"the gland to separate from the sound parts. This
"action seems to depend on the application of the arsenic
"to the sound skin when deprived of its cuticle. The
"mineral seems then to act by bringing on inflammation
"and suppuration in the cellular membrane all around
"and underneath the diseased gland, which is thus forced
"out entire and unaffected by the caustic. This is a
"material point to attend to, and which I have learned
"only from disagreeable experience. If any one, there-
"fore, be desirous of applying the arsenic to an indu-
"rated gland, which is ulcerated in the middle, in the
"expectation of separating the whole gland at once, he
"must extend the application all over the indurated part,
"after having deprived the surrounding skin of its
"cuticle, either by a blister or the method made use of

“ by me in the above instance, which I think preferable,
“ as being less irritating. Perhaps it may hereafter be
“ found only necessary to make a circle round the whole
“ tumour for the application of the arsenical caustic. If
“ this should succeed, which is not improbable, from con-
“ sidering the effects of this caustic, the utility of this
“ method may be extended to cases where, from the ex-
“ tent of the complaint, it would not be safe to use it in
“ the present mode, and that for obvious reasons. This
“ is, however, merely a conjecture; and I sincerely and
“ ardently wish that these, which are all the observa-
“ tions I have been able to make upon the use and effects
“ of arsenic, may lay the foundation of other more im-
“ portant discoveries, which may hereafter tend to the
“ improvement of surgery, and the benefit of mankind.”

—*An Account of the Methods pursued in the treatment of Cancerous and Schirrous Disorders, and other Indurations. By J. O. Justamond, F.R.S., and Surgeon to the Westminster Hospital, 1780.*

CASES.



C A S E S.

IN reporting the following Cases, we have thought it best to give, in full, the particulars of but one in each class of those which have been successful. It would be a tedious and unnecessary repetition to detail similar cases at the same length. Indeed, so great, for some time, was the number of patients under daily treatment, that it would have been impossible, if we had desired it, to keep extensive records of them all. Any important circumstance occurring in the course of a case, and especially anything like ill success, was carefully noted; for we were of opinion that the most valuable Report would be that which most fully set forth before others the various possible causes of failure. This remark is to be borne in mind, lest an unfair impression of the value of the treatment should be obtained from prominence given to unsuccessful cases.

In some of the Cases we have taken advantage of the time occupied in printing, to continue the records of them beyond the date of the Report itself.

SCIRRHUS OF THE BREAST REMOVED.

CASE 6.—Mary P., æt. 53, a tall, corpulent woman, with rather dark complexion, was admitted into the Middlesex Hospital January 26th. In early life she had been thought consumptive, but she had usually been in good health. She had been long married, and had had two miscarriages, but no children. The last miscarriage occurred when she was 37 years of age.

Five months before her admission, she experienced a pain, and then noticed a tumour, in the left mamma. The tumour is situated in the substance of the breast, above and outside the nipple ; it is as large as a small apple, rather flattened, and very hard and tender. The breast tissue closely adheres to it, and the skin is slightly thickened and puckered over it, but the nipple is not retracted. The breast itself is very large, pendulous, and soft, and, with the tumour, moves freely over the chest. The tumour increases slowly in size, the pain in it is lancinating and severe, but not constant. No disease can be discovered in the axilla.

January 27th.—The skin covering the tumour was washed to the extent of 4 inches wide by 3 inches long, with strong nitric acid. The application of the acid was painful, and the adjoining skin formed a bright red halo of inflammation around the tawny surface which had been charred by the acid. The paste, spread upon calico, was applied upon the latter surface, and in a quarter of an hour the pain had much subsided. The diet is meat and vegetables, with strong beef tea, and a pint of porter.

28th.—The pain continued and was severe till 2 a.m., when she slept. The whole skin had not been killed by the acid. There was less redness around the eschar. The dead and leathery skin was very lightly scored with vertical incisions half an inch apart ; there were thus 7 in a breadth of 4 inches of eschar. The paste was then reapplied over the whole surface of the eschar, living and dead.

29th.—The pain is described as having been extremely severe and long continued. The living patches of skin have vesicated, and their exposed surface is red, like healthy granulations, and discharges a little. The scorings were deepened to the extent of half a line without producing haemorrhage, and the remedy was reapplied over all.

30th.—She slept after midnight, but speaks of the pain as very severe. The whole surface is now dead, and is yellowish ; between it and the red skin around is a whitish ash-coloured line of demarcation. The whole breast near the eschar is swollen and very tender. The incisions into the slough were deepened to the extent, in some places, of one-eighth of an inch without anywhere cutting so deep as to reach living structures, and narrow strips of calico, covered with the paste, were inserted into the fissures. The dressing was completed by laying a circular piece of dry calico over the eschar.

31st.—She slept after midnight for five consecutive hours, and suffered altogether much less, now that the skin has been completely destroyed. The pain she speaks of is a "drawing sensation," as if the backbone were dragged to the breast. The breast is less tumid, but is still tender, and the slough has sunken a little below the level of the surrounding skin. The calico laid outside, and the strips inserted in the incisions, were dry, and stuck so firmly to the slough, which was parched and horny, that they had to be moistened before removal.

February 4th.—The dressings have been renewed daily, except yesterday, and she has more pain to-day than usual. There is less tenderness in the breast. The incisions are seven-eighths of an inch in depth.

7th.—The edges of the eschar having begun to separate before the remedy had reached the bottom of the tumour, an extra quantity of the paste was applied. No increase of pain occurred, but she continued to suffer much in the outskirts of the breast and in the axilla and back, as well as from the soreness due to an extensive vesication of the skin around, and particularly below the tumour. The oozing of the paste over that raw surface of cutis occasioned severe pain.

12th.—The eschar rises, and the surrounding breast is puckered and no longer swollen. The edge of the living skin is thickened and raised above the trench of demarcation, the latter being half an inch in breadth. The deepest incision in the eschar reaches down to the extent of $1\frac{1}{4}$ inch. She still complains much of pain, and refers it to the chest, back, shoulder, and pit of the stomach, rarely to the breast itself. She has appetite, and sleeps at nights.

23rd.—"Dreadfully painful, as if it were pulling her heart out." Deepest incision 2 inches.

25th.—The base of the mass cuts no longer crisp, the incisions having passed through the tumour. The last strips were inserted to-day. She feels better, and has less pain. Stramonium ointment applied around the eschar.

March 2nd.—Since the 25th the pain has been considerable, and in the breast only. The eschar has not yet risen above the surrounding surface.

11th.—The line of demarcation has deepened greatly, and the eschar has risen very considerably. Some living nerves and other bands passed across the gap, and were divided with scissors.

14th.—The mass, being attached only by a portion of its base, and having gravitated downwards, was carefully cut across, and removed. Its vertical diameter had increased to $5\frac{1}{4}$ inches, the transverse to $4\frac{1}{2}$: the measurement of the ulcer was $4\frac{1}{2}$ by 4 inches; and the surface was superficial.

20th.—Ulcer is 3 inches in diameter, and is formed entirely of healthy granulations.

April 27th.—Has been an Out-patient lately. Returns to-day with a healthy scar, less than 2 inches in diameter. A cord of absorbents is indistinctly perceptible below the edge of the pectoral, but no enlarged gland can be felt in the axilla, and her general health is excellent.

July 6th.—She called merely to show herself. The cicatrix and all around are quite sound, the breast generally being of the average size and form. Her health is excellent.

SCIRRHUS OF THE BREAST REMOVED.

CASE 7.—Emnia M., aet., 40, was admitted in the end of January. She has been a widow for two years, and has had five children. Only the eldest survived, and he is six years of age. The youngest was born three years ago. She herself is a stout, florid, healthy looking person, having led a healthy life, and lately got fat. At the outside of the right breast is a hard tumour embedded in the mammary tissue, except that it reaches to the axillary side of the pectoral muscle and there adheres to the skin. It is of about the size of a walnut, but longer laterally. A cord leading from the tumour, and an enlarged axillary gland, are thought to exist, but there is so much adipose matter in the axilla, that this is doubtful. The disease has existed fourteen months, and occasions pain down the arm; the tumour is itself painful when the arm is moved.

February 2nd.—The acid was applied over the tumour to a space of skin $3\frac{3}{8}$ inches in breadth, by 3 inches in vertical diameter: one of the folds of skin beneath the pectoral muscle was included in the charred surface. The application was decidedly painful, and the skin vesicated at once.

9th.—The usual treatment by incisions and strips of linen smeared with paste, was pursued in this case. The pain was severe, and occasionally spoilt her rest. It is, in this case, more than usually limited to the diseased part, not reaching beyond the shoulder. It is evident that much of her suffering depends on the fold in the

eschar near the axilla ; otherwise the feeling in the part is as if a weight pressed it. The deepest incision measures about $\frac{5}{8}$ of an inch after the week's treatment ; but such measurement is no guage of the depth that has been incised ; for considerable quantities of unchanged oil have oozed out, as the subcutaneous fat-cells have been cut open, and the real depth is much greater than it appears to be. The cutaneous part of the eschar is greasy from this cause.

18th.—All the oil has filtered out of the cells, and the sides of the incisions present the usual white-ash colour ; vessels filled with cords of black solid blood are plainly visible in it. She has less pain. The slough has extended downwards.

26th.—The last application was made to-day. She has lately been unable to sleep without an opiate ; she has numbness in the arm, and much "drawing" pain in the breast.

March 2nd.—She has had much less pain in the week since the dressing with the paste has been discontinued.

10th.—The eschar was loosened occasionally with scissors, and has, moreover, been thrust out by the granulations. It fell out this day at noon. The whole mass measured $4\frac{3}{8}$ inches across. The remaining ulcer is in one part about an inch in depth ; it is four inches in breadth.

23rd.—The sore is two inches distant from the nipple, yet milk oozes with some freedom from two or three spots in the midst of the granulations. She has not suckled for $2\frac{1}{2}$ years.

April 13th.—The sore is all but healed. The axilla is a little full, but it was uncertain if there were any enlarged gland in it. She returns to the country to-morrow. Health excellent.

July 29th.—Readmitted into the Hospital. Her general health appears quite good. The cicatrix forms a mere line in its anterior half, as if the large wound had there healed by the first intention. The posterior half is triangular, very dense, but healthily vascular and red. In the substance of the breast, at the lower edge of the narrower part of the scar, a hard tumour has formed. It is of about the size of an almond, and is both painful and tender. Moreover, a gland in front of the axilla is felt decidedly enlarged, and is likewise tender. Towards the back of the axilla there is a little nodular irregularity, which is suspected, rather than distinctly ascertained, to arise from cancerous enlargement of the glands in that situation. Drops of blood occasionally escape from the nipple.

31st.—A freezing mixture of ice and salt was applied over

the outside of the breast and the axilla, which had the effect of turning a large portion of the surface quite white, and rendering the whole insensible. As soon as it was wiped dry, the frozen surface was washed with nitric acid in the usual way. Feeling returned in the skin before the acid had effectually destroyed it, and she consequently suffered pain; but she distinctly said that the pain never rose to such acuteness as on the first occasion, when the acid was used without previous freezing of the skin.

August 3d.—Incisions have been made so as to radiate to all parts of the circumference of the eschar. A cyst has been opened in the situation of the tumour and linear cicatrix.

20th.—The anterior half of the eschar came away yesterday, and the remaining part from the axilla to-day. The paste used on this occasion has been made without sanguinaria, and by substituting liquor opii sedativus for water. The patient constantly felt drowsy after each dressing; and that ceased when the insertion of the paste into the slits was discontinued.

September 8th.—The sore has been rapidly contracting and healing without any untoward occurrence: and her health continues good. She will return to the country in a few days.

LARGE OPEN CANCER OF RIGHT BREAST EXTIRPATED AND
HEALED.

CASE 8.—Elizabeth M., in her eightieth year, frail and emaciated, was admitted into the Middlesex Hospital, January 6, with a cancer in her right breast, of twelve months' growth, and in which ulceration had commenced three months before her admission.

From the centre and axillary side of the mamma there projected an irregularly globular mass of scirrhous cancer, seven inches in diameter at its base, and excavated, to the extent of four inches in breadth, into a foul ragged ulcer, with profuse foetid discharge. In the greater part of its circumference the margins of the cavity consisted of round bosses of a purple colour; the depth of the ulcer was an inch and a half, but, owing to the elevation of the whole mass above the level of the chest, the base did not adhere to the ribs, but only to the pectoral muscle, and the tumour was partially moveable; the skin covering the outer borders of the cavity was thin and violet-coloured, and for some distance around the base it

was red and oedematous. There was no disease in the axilla or chest. For the first fortnight the treatment consisted in applying palliative remedies to the ulcer, and giving diffusible stimulants and carminatives, with nourishing diet. Although Burnett's solution was employed plentifully about the bed and outside the dressings, the bad smell from the breast was but imperfectly corrected. On the 16th, lint moistened with Burnett's solution of the strength of one part to seven of water was inserted into the cavity of the ulcer, and frequently changed; but as it caused much pain, it was desisted from in three days, and a lotion with chlorate of potash substituted.

On the 22nd of January Dr. Fell commenced his treatment. For the first three days he employed his remedy diluted with stramonium ointment; afterwards he applied it undiluted, previously scoring the dead surface slightly at each successive dressing, or first scraping away portions of the friable eschar, and then incising the surface before putting in his remedy. At the end of a week the whole morbid mass had perceptibly shrunk, without occasioning particular pain, or more than slight irritation in the adjacent parts. The surface of the ulcer consisted of a dry, ash-coloured slough, the incisions in the firmer parts of which extended to the depth of half an inch; at the bottom of the ulcer there were collected each day a few drachms of thickish fluid, which came apparently from an abscess opening from beneath the adjoining red skin. The effect of the application was to destroy at once the offensive smell which formerly extended beyond the bed.

February 19th.—The shape of the diseased mass, as well as its size, is much altered. The large bosses constituting the margins of the ulcer have shrunk, and the uneven excavations forming its bottom have united into one funnel-shaped cavity, which has been considerably reduced below its original dimensions by the general contraction of all the diseased part. About this period the measurement of the mass had diminished to $3\frac{3}{4}$ inches transversely, by $2\frac{3}{4}$ inches vertically.

21st.—A line of demarcation has been gradually forming around the eschar, and it is now in some parts of considerable depth. Portions of the more projecting parts of the slough, with the view of diminishing its weight, were cut away; the remainder was incised, and dressed as before.

March 18th.—For a few days poultices have been applied. The

eschar having become loose, was easily removed with the forceps and scissors.

20th.—The base of the cavity, which is much diminished in depth, and scarcely exceeds two inches in breadth, is a healthy granulating sore. Except a small portion of the upper and inner part, the margins are sound; but there the edge is hard, and the ulceration presents the characteristic appearances of cancer. A small quantity of the undiluted paste was applied to the unsound portion of the edge, the cavity being filled with cotton wool spread with stramonium ointment.

31st.—The paste has been daily applied to the part of the edge where the disease remained, and the eschar has almost separated. Cicatrization has proceeded rapidly in the remainder of the sore.

April 19th.—The whole cavity has healed, except a part about the size of a thumb nail, where the granulations are healthy. The surrounding parts, embracing a portion of the mamma, are soft and natural.

July 9th.—The small part of the sore left unhealed assumed the character of cancerous ulceration, and in the middle of June the paste was reapplied, which caused the separation of a small eschar. As the sore resulting again presented the appearance of cancer, the application of the paste was renewed to-day.

August 19th.—The paste soon brought away an eschar of the size of a garden-bean. The sore has been dressed with stramonium ointment, and is now quite closed.

30th.—The cicatrix is of the size of a shilling: is pliant, and moves freely on the subjacent parts: its edges are soft, level with the surrounding skin, and entirely free from any signs of remaining cancerous structure.

For completing this report it remains to speak of the pain, and of the effects on the constitution produced by the treatment. As to the first, it is to be admitted that the patient frequently expressed herself strongly as suffering pain; she sometimes also said that the pain continued even when she was asleep; but at no time did she manifest any unwillingness to have the applications renewed. She declined opiates when proposed, and, according to the nurse's reports, she seldom passed a night without long and sound sleep. From the day she was put under Dr. Fell's treatment her general health greatly and strikingly improved; her appetite was keen, her digestive functions were regularly per-

formed without the assistance of medicine, and she soon gained perceptibly in flesh and healthy appearance. With few exceptions, she was out of bed early for several hours together; and even took exercise in the open air. She is, however, at present confined to bed by constant pain and tenderness in one loin. No disease of the vertebræ, or of any internal organ can be ascertained to exist.

CANCER OF RIGHT BREAST.—GROWTH OF TUMOUR DURING
TREATMENT.—EFFECTUAL REMOVAL.

CASE 9.—Ann T., aet. 61, a widow for the last 21 years; pale, harassed, and much troubled with cough and shortness of breath, which appear to depend chiefly upon disease of the heart, was admitted February 22nd.

She has a very loose breast, the upper half of which, including the nipple, is healthy; the lower part is solid, firm, covered with thickened, red, adherent skin, and pendent. A rounded, red, soft growth, about equal to the large end of an egg, projects from the level of the hard lump, which is as large as an orange, and threatens to burst. The whole tumour is of ten months' growth. During the last three months, in which the secondary protrusion has appeared, she has suffered pain.

February 23d.—The treatment was begun by applying the acid to the whole of the prominence, and to the lower part, and one inch of the upper part, of the thickened, cancerous, red skin. The incisions were, consequently, chiefly made at the lower surface of the disease, and opened downwards.

When the incisions had penetrated the skin, she only occasionally suffered much pain. Between March 1st and 5th three distinct cysts, containing clear fluid, were opened; from one, half an ounce escaped at once; its cavity, when dressed, was stuffed with cotton wool spread with the paste. She could at times sleep the whole night. Her cough subsided, and the breathing and her general appearance and feeling much improved while the treatment went on.

The local circumstances in this case were remarkable. In consequence, probably, of the position of the incisions, the growth was penetrated very slowly by the paste; while, at the same time, the shrinking of the eschar proceeded at an unusually rapid rate. By the 1st of April, the incisions reached only about as far

upward as the skin had been destroyed by the acid. Meanwhile, however, the upper part of the tumour had continued to grow, and extended into the mammary gland, in that direction. A fresh application of the acid was consequently made over the newly developed tumour. By the end of April, the lower part of the eschar, which had been first treated, was completely detached from the surface of the chest, and nearly the whole sore had healed behind it; so that the newly-formed eschar, which was still under treatment, being attached to the breast only by the higher portion of the tumour, hung down in front of the cicatrix, and obscured it. The whole slough did not finally separate till May.

June 27.—She was discharged, in much improved health, with the wound quite healed, and without a trace of disease either in the cicatrix or axilla.

OPEN CANCER OF THE BREAST.—CANCEROUS GLANDS IN THE AXILLA.—EXTIRPATION OF BOTH.

CASE 10.—Mrs. S., *aet. 56*, feeble, and lame from rheumatism; mother of seven children, of whom the youngest is sixteen years old; sent from Hampshire; was admitted March 10th.

The site of the left breast is occupied by a flat, oval, projecting tumour, in shape and size not unlike the longitudinal section of a large human kidney. The surface of the whole tumour is ulcerated to a nearly uniform level throughout, except in the middle of the outer border facing the axilla, where the ulceration has proceeded to a greater depth than elsewhere. The structure of the tumour generally is rather soft and spongy; and its borders are slightly rounded and everted, partially overhanging the base: but in the centre, near the axilla, where the excavation is greatest, the morbid substance is of dense consistence, with a contracted puckered appearance around. The edge of the ulcer, at the latter part, reaches a short way along the hollow space overhung by the border of the pectoral muscle. For some distance around the whole growth, the skin is œdematosus and stiff, with a glazed surface, variously discoloured purple or red. The tumour generally is scarcely moveable at all on the chest; the firmest adhesion being near the axilla. In the anterior part of that cavity there is a cluster of indurated glands, forming a tumour of the size of a walnut: from being embedded in dense cellular membrane which adheres to the edge of the pectoral muscle, this mass possesses little mobility.

Two years ago the patient observed a hard lump, like a pea close to the nipple. After several months this substance grew to the size of a walnut, and drew in the nipple. Twelve months since, when the lump was of the size of an egg, the skin broke. During the protrusion and enlargement of the tumour, and the extension of the ulceration, the pain was constant and excessive, depriving her of sleep, so that "no one could tell what she suffered."

Unfavourable as the case appeared, it was agreed in consultation that it was proper to give the patient the chance of any benefit which the treatment might confer. Accordingly, on March 12th, the paste, much diluted with stramonium ointment, was applied on calico over the ulcerated surface. On the third day, the paste was applied undiluted. At first, the eschar produced by the application was friable, like decayed cheese, and that was chiefly scraped away. But in a short time the consistence of the base became so firm, that incisions were made, and these were filled with strips of calico smeared with the paste. The dressing was not attended with much pain; it being much less than she had experienced during the growth of the tumour: she was out of bed all day, and walked in the garden. The deepening of the incisions was discontinued on the 27th March; at which time the ulcerated groove forming the line of demarcation, was deep, especially towards the axilla, and the eschar was somewhat prominent. The stramonium ointment round the eschar gave much ease. At this period, the mass of glands in the axilla had become not only decidedly smaller, but much more moveable in its bed.

April 9th.—With a little cutting at its base, the slough came out—exposing the fibres of the pectoralis major muscle. The diameter of the sore was $4\frac{1}{2}$ inches. She has continued to make light of the pain.

17th.—The sore measures $3\frac{1}{2}$ by $2\frac{3}{4}$ inches: its bottom has risen to the level of the skin: at its axillary edge there is a small hard part, of the size of a pea: the gland formerly in the axilla now lies more anteriorly, under the fold of the pectoralis muscle; the skin covering it is hard and adherent, but otherwise it is attached loosely, and has lost a quarter, at least, of its original size.

On May 4th the acid was applied over the axillary gland; and it was afterwards treated by incisions and paste till it separated as a slough on the 15th May. By the end of that month, the

wound was nearly healed : but as a small part of the axillary edge of the sore appeared to be again affected with cancerous action, there was a renewal of the paste : and in about a fortnight the eschar, which measured two inches square, and had three slits in it, peeled off.

June 22nd.—The sore resulting from the last application of the paste is fast contracting, being $1\frac{1}{4}$ inch transversely, and $3\frac{1}{4}$ inches vertically. It is situated between the principal cicatrix and the axilla, being overhung by the border of the pectoral muscle. Its surface is level with the adjoining skin, and the granulations are healthy. The adjacent skin is sound. No enlarged glands can be detected either in the axilla or above the clavicle.

July 22nd.—Shortly after the last report she became, at her own option, an Out-patient : but on account of lameness from severe sciatica, a complaint to which she had been long subject, she could not continue her attendance long. She returned to the country when the sore was nearly quite closed, and in a healing condition. To-day one of the nurses received a letter from her, full of expressions of gratitude, and saying that but for the weakness of her leg she should be quite well ; adding, that "her breast is healed nicely."

RECURRENT CANCER, REMOVED.

CASE 11.—Catherine L., æt. 58, who has borne twelve children, the youngest being sixteen years of age, was admitted 4th June. She has had cancer of the left breast for eight years. Under the treatment of a cancer-curer in the country, three and a half years ago, a large lump came away. The application appears to have been a strong caustic. Eighteen months ago the disease returned. There is a deep irregularly shaped, extensive cancerous ulcer, with folds of the adjacent skin converging to it and adhering to the chest. There is no disease in the axilla.

June 24th.—The whole tumour has been removed, and a large gap remains in its place. The sore is healthy, except in having a portion of necrosed rib at one part of its centre.

30th.—At her own request she became an Out-patient.

July 27th.—The exposed cartilage of rib being loose, was extracted to-day—it was $1\frac{1}{2}$ inch long.

August 5th.—The whole sore is healed and much contracted. Her health is good, and there is no trace of further disease.

ADHERENT AND ULCERATED CANCER OF THE BREAST REMOVED.

CASE 12.—Eliza S., æt. 49, was admitted March 31st. Five years back she first observed a lump at the outside of the right breast. A year ago the skin began to get hard and tight over the breast, and about three months since it ulcerated. The whole mamma is now contracted, and covered with dense adherent skin in irregular folds: hard globular masses of scirrhus are formed along the border of the pectoral muscle, and the whole diseased mass moves but little over the chest. In the hollow below the fold of the pectoral muscle, a superficial ulcer of the size of a florin piece is situated. In the anterior part of the axilla, a gland of the size of a filbert, and firmly attached to the deeper parts, can be felt. A gland of the size of a chestnut, enlarged and indurated, is also felt above the clavicle. The case was deemed an unfavourable one for treatment, but it was undertaken in hopes of improving the condition of the patient.

April 2nd.—Nitric acid was applied over three quarters of the diseased mass, selecting the most prominent parts.

May 11th.—The eschar dropped out.

June 27th.—A perfectly healthy scar, of small size, fixed to the chest, has formed. She requests to be made an Out-patient.

August 25th.—The cicatrix continues sound. Except a tubercle of the size of a split-bean, a little removed from the upper edge of the scar, and beneath sound skin, no trace of cancer exists at the original seat of the disease. On close examination, a small, flat, moveable gland is detected in the axilla. The gland above the clavicle is considerably diminished in size. For some time a firm uniform oedematous swelling, extending from the clavicle to the cicatrix, gave rise to apprehensions that cancerous disease was springing up there: but under the application of the iodide of lead ointment, the tumefaction gradually subsided. Owing to the destruction of parts, and contraction of the cicatrix, the skin of the axilla with its hair is dragged near to the fixed scar, which occupies the former site of the nipple; and that drawing in of the pectoral muscle impedes the motions of the arm. She looks well, and has not, for many years past, enjoyed such excellent health.

OPEN CANCER OF THE BREAST AND DISEASED GLANDS : FORMER
EXTIRPATED.

CASE 13.—Sarah R., æt. 56, has had a knot in the right breast for ten years. Till three years ago it was not larger than a shelled almond. The tumour increased in size, and ulcerated about eighteen months ago. In January, 1856, the axillary glands first became affected: a swelling then took place, which burst, and matter was discharged from it.

Upon admission the right breast was gone; and in its place is a nearly flat cancerous sore, 2 inches long, by $1\frac{1}{2}$ inch broad. The base is partly nodular, partly thinly cicatrized, the edge is raised and hard. The surrounding tissues are drawn in seams towards the diseased part, and are spotted with tortuous veins. A deep furrow beneath the pectoral muscle leads to a mass of hard glands in the axilla, to which the discoloured skin is closely adherent. Neither tumour nor skin can be moved over the ribs, to which they are closely adherent.

The treatment of the cancerous ulcer was begun on the 19th of February, by inserting into it the paste spread on cotton wool. On the 14th of March, the eschar was removed from a nearly flat granulating surface, measuring 4 inches vertically, and 3 inches transversely.

April 17th.—The sore has been healed for some days. At the upper part, where from the thinness of the parts between the scar and the ribs and intercostal spaces, the newly formed skin is tense and smooth, there is a superficial breach of the surface, not properly an ulcer. The adjoining parts, including the axilla, present no appearance of remaining cancerous disease.

August 31st.—This woman has attended frequently as an Out-patient, on account of cutaneous eruptions and boils. The cicatrix has once or twice partially broken out quite superficially, and healed, without presenting any trace of cancerous action. The axilla, which originally had its borders hard and adherent, is now soft and flexible; and the cicatrix, together with the adjacent skin, remains sound.

CANCER OF BREAST EXTIRPATED.

CASE 14.—Mary Ann K., æt. 47, was received as an Out-patient. On the 30th March, the treatment was commenced with an unbroken cancer of the left breast of 12 months' duration. She was

tall and thin, and appeared in bad health. She had suffered a good deal of pain in the tumour.

An eschar of about three inches in diameter, including the nipple and areola, came away 8th May: and by June 12th, a healthy scar, less than an inch and a half in diameter, was formed in its place, more than half the breast remaining sound.

August 15th.—No trace of disease exists in the scar or axilla.

CANCER OF BREAST EXTIRPATED.

CASE 15.—Mary S., æt. 60, a sallow woman, had had a cancer in the middle of the left breast for 4 years, and experienced much darting pain in it. The skin was adherent, discoloured, and beginning to give way. She was received as an Out-patient: and the treatment was begun on the 29th May.

She had but little ease during its continuance. The incisions were six in number, they were deepened and dressed with the paste till 15th June. The eschar, which measured five inches transversely, and four inches vertically, came away 2nd July. The sore rapidly filled up, and on the 27th July was on a level with the skin and nearly cicatrized; the adjacent parts and the axilla being sound. Her health is greatly improved.

August 3rd.—A lymphatic gland, indurated and of the size of a filbert, was felt loose in the axilla to-day for the first time.

23rd.—Over the sternum is a general fulness and hardness, without defined borders, and the veins are distinct. The axillary gland continues the same. She is free from pain; and she expresses herself as quite well.

CANCER OF BREAST REMOVED.

CASE 16.—Eliza Ann S., a dwarf, æt. 47, well nourished, but pale, was admitted May 12th, from a Union-house, in which she had resided many years. She had a cancerous tumour, nearly three inches across, deeply seated in the substance of the left breast, and of five months' growth. The treatment was begun on the 13th May; and the tumour was removed on the 24th June.

June 30th.—Wound healthy and contracting. The edge near the axilla was a little thickened, and it was doubtful whether there was any cancerous disease at that spot. The thickening, however, was quite soft, and there was no glandular disease in the axilla.

August 11th.—For the last three weeks the wound has been closed, except a part about the size of a shilling, which has been indolent; owing, it has been thought, to her anaemic constitution. There has been no reappearance of cancerous disease. The cicatrix and adjacent skin are sound. She was discharged to-day.

CANCER OF BREAST REMOVED.

CASE 17.—Esther K., æt. 54, admitted May 19, with a large cancerous tumour in the left breast of eighteen months' growth. The treatment was at once commenced, seven incisions being required, and the tumour was removed June 24th.

July 14th.—She was made an Out-patient.

20th.—A small nodule is noticed internal to the scar, which is an inch and a quarter in diameter, and is healed all but a slight superficial rawness. Occasional pain in the left side, otherwise her health is good.

August 8th.—Wound quite healed. Axilla healthy throughout.

CANCER OF BREAST.

CASE 18.—Q., æt. 35, a healthy looking married woman, admitted May 7th, had a cancer of the left breast of two years' standing. In that period it had grown from the size of a hazel nut to that of an orange. She had had no operation; but, at one time, she had from four to six leeches applied to the breast every third day, for a period of six weeks.

The treatment was at once commenced; and the tumour dropped out as a sleugh on June 15th. The sore appeared healthy until the 25th of June; when a small cancerous growth which sprouted from a part of it was attacked. At the end of July a small growth appeared, which was likewise destroyed. Shortly afterwards she left the hospital.

CANCER OF BREAST EXTIRPATED.

CASE 19.—Eliza A., æt. 39, was admitted with a scirrhouus tumour of the right breast, of the size of a large walnut, near the sternal border of the gland. The skin was adherent but unbroken. It had existed for nearly two years, and had lately enlarged considerably.

The treatment was begun May 26th; the incisions were six in

number, and the last dressing took place June 8th. On the 17th of June the slough was removed. On the 22nd she was made an Out-patient, with a perfectly healthy wound, measuring three inches by two inches, inside the nipple.

July 10th.—The scar is nearly completed, but is inflamed, vesicating a little, and a small abscess has formed in the axilla.

15th.—The scar is well, the axillary abscess healed, and there is no secondary cancerous disease.

September 14th.—Shortly after the last report, the upper angle of the cicatrix opened, and formed a superficial sore an inch in diameter; but it speedily healed, without presenting any of the characters of cancer. At one or two points, along the outer border of the scar, where it is quite sound, the mammary gland is abnormally hard; but it is apparently from the effects merely of simple inflammation; the nipple, which rests on these parts, is soft and erect, and the skin is moveable.

During the whole course of treatment, this patient has suffered very little pain, has never been deprived of sleep, and has continued in excellent health.

CANCER OF MAMMA REMOVED.—DISEASED GLANDS.

CASE 20.—Susan H., *aet. 57*, came as an Out-patient on March 25th, with a large scirrhous mass in the left breast, chiefly covered by mammary tissue, but reaching the surface at the nipple, on one side of which a crust had formed. The disease had commenced below the nipple eight months before. Several diseased glands could be felt in the axilla, forming a chain which reached to the neck. The subclavian space was swollen, as compared with that of the opposite side, and some glands could be indistinctly felt in it.

March 25th.—The acid was applied to a surface, including the nipple, of four inches in diameter. On April 17th, the eight incisions made in the eschar were dressed with the paste for the last time. By May 1st the slough had dropped out. On June 2nd the sore, which had been for some time nearly healed, was cicatrized, the scar being only two inches in diameter. The affected glands, without other perceptible change, became more freely moveable in their bed of cellular membrane. She preserved her health during all the treatment, and made light of the pain; sometimes, to show that it was not great, shaking the breast with her hand or squeezing it.

August 21st.—She came as a visitor to the hospital in the absence of the Surgeon: she reported herself to the sister of the cancer ward as quite well in the breast, her only inconvenience being a stiffness in the arm.

CANCER OF BREAST EXTIRPATED. 1

CASE 21.—Elizabeth B., æt. 63, was admitted May 19th for a scirrhou*s* tumour of the right breast, of three years' growth, with a cluster of indurated glands in the axilla, and continued into the neck. The tumour was treated by incisions dressed with the paste. The slough dropped out June 22nd. She was made an Out-patient June 30th. The sore rapidly contracted, and the adjacent parts continued soft and healthy. The cicatrix was perfectly formed in the beginning of August; when it was remarked that the lymphatic glands in the axilla and neck were much smaller than before the treatment commenced.

CANCER OF BREAST EXTIRPATED.—SUBSEQUENT OEDEMA.

CASE 22.—Eliza S., æt. 40, apparently healthy, came as an Out-patient with a cancer of the left breast. The disease had existed two years, was growing slowly, but was very painful.

The treatment was commenced on the 19th May. On the 24th of June the tumour was out; and the gap left measured 4 inches by 6 inches in opposite directions.

July 8th.—She was able to leave town, the wound healing, and without perceptible disease in the axilla.

August 1st.—She returned to-day, alarmed at occasional attacks of pain in the cicatrix, which had closed a fortnight ago, and which now presents a perfectly healthy appearance. Above and below the scar, and principally in the pectoral region, there is a firm general swelling, like that of oedema; but no defined tumour or enlargement, like the commencement of a cancerous growth, can be detected anywhere.

September 5th.—She has attended occasionally. The swelling remains as distinct as before, but is somewhat softer. Neither in the cicatrix, axilla, nor subjacent walls of the chest, can anything be observed, save the swelling, to lead us to apprehend a recurrence of the disease. Yet the patient is anxious, and tells us of sudden attacks of shooting pain in the breast, which last for an hour and a half at a time, and return two or three times a

week, and these make her quite ill for some hours afterwards. Her general looks are those of good health.

OPEN CANCER OF THE BREAST EXTIRPATED.

CASE 23.—O., æt. 67, was received as an Out-patient, July 6th, with a scirrhous tumour, of the size of a small orange, embedded in the upper segment of the right breast, and having a superficial circular ulcer, an inch and a half in diameter, on its most prominent part. The nipple was retracted. The breast was moveable on the chest. A small indurated gland was felt loose in the axilla. She first noticed the tumour when small, two years ago: the skin broke two months ago.

There being around the circumference of the ulcer a border of sound skin, about an inch and a half in breadth, which covered the face of the tumour where it was not ulcerated, it was agreed, in consultation, to omit applying the nitric acid to the healthy skin, and to observe the effects of attacking the disease through the open ulcer simply. Accordingly, a circular piece of cotton, sufficiently large to cover the ulcer and a narrow halo of pink-coloured skin bordering it, was spread with paste, and laid on the ulcer. On the two following days the same thing was done, with the addition of scoring the eschar. At first, the incisions were only three in number: these were dressed, as usual, with strips of anointed calico: the only difference from the ordinary practice being that the ends of the strips were left rather long, so as to admit of some of the paste coming in contact with the partially destroyed skin at the circumference of the eschar. Gradually the diameter of the eschar was enlarged, so that on the eighteenth day of the treatment it measured four inches transversely, and three vertically; and there were six slits, the average depth of which was one inch and three quarters. At that time, July 24th, a sulcus had formed in the line of demarcation, at the outside; but in the rest of the circumference the line was marked only by unbroken vesications. From the contraction attending the process of sloughing, the eschar was perceptibly depressed below its former level. The surrounding skin was much inflamed. She complained of great pain, and her looks confirmed what she said.

August 1st.—Ceased to deepen and dress the incisions. The

nipple, which is on the edge of the line of separation of the sound skin from the eschar, is œdematosus, but otherwise healthy. She is improved in health.

Aug. 10th.—For some days the borders of the eschar have overhung the sound skin in some places, to about three quarters of an inch; which shows how rapidly contraction of the subjacent sore has been taking place, even before the actual separation of the slough. To-day the eschar dropped off. It measured four inches by three, with a thickness of two inches.

September 10th.—Since the last report the sore has progressively contracted and skinned over, so that now, except a small superficial healthy part near the nipple, where the cuticle seems forming, it is healed. The cicatrix measures two inches vertically, and three-quarters of an inch transversely. The part of the mammary gland which adjoined the tumour feels soft and natural. The skin all around is free from any indication of cancer. The indurated gland formerly noticed in the axilla, is so much reduced in size, that it is doubtful whether it continues to exist. Latterly, the patient has gained in flesh; and from her freshness of complexion, and cheerful mood, she appears to be in perfect health.

As respects the trial of dispensing with the use of the nitric acid at first, this case gave no encouragement to repeat that practice. During the gradual destruction of the skin overlying the tumour, caused by the extension of the influence of the paste from the margins of the ulcer upon it, much inflammation was set up: it seemed as if a continuous set of ineffectual attempts at the formation of a line of demarcation were being made; along the new margins vesications and pustules were constantly appearing: independently, therefore, of what the patient herself said as to the severity of pain which she suffered, it was obvious, from the appearance of the part, that she was greatly harassed by the mode of treatment adopted.

SCIRRUS OF THE BREAST, WITH ULCERATION EXTRIPATED.

CASE 24.—Mrs. L., æt. 63, was admitted June 29th, with scirrhus of the right breast, of four years' growth. The tumour forms a dense, heavy mass, of the size of a man's closed fist, and is situated in the upper and outer part of the mamma, above and distinct from the nipple. Lobes of the tumour are visible exter-

nally: in its most prominent part there is a circular ulcer, of the size of a crown piece, which began to form a month ago. The whole breast is moveable on the chest. A cord of condensed cellular membrane around the lymphatics, can be traced along the border of the pectoral muscle; but no diseased glands are perceived in the axilla.

Nitric acid was applied to the sound skin for two or three inches round the circumference of the ulcer: and the whole surface, including the ulcer, was afterwards covered with calico spread with paste.

July 2nd.—Strips of dressing were inserted into the incisions to-day.

10th.—Rolls of cotton wool, smeared with paste, were substituted for the cotton strips.

22nd.—The deepening of the incisions, and the use of the paste were discontinued.

28th.—To facilitate the separation of the eschar, a linseed-meal poultice was ordered.

Aug. 4th.—As the eschar was attached by only a small part, it was removed with scissors, leaving a portion of the base to separate afterwards. The eschar weighed ten and a half ounces: it measured $5\frac{1}{4}$ inches in one direction, $3\frac{3}{4}$ in another, and was two inches thick.

8th.—The part of the slough left remaining, fell off. The sore is to be dressed with equal parts of the subacetate of copper and stramonium ointments.

11th.—She had dilated pupils, red dry tongue, constriction at the upper part of the sternum, with giddiness and faintness. These symptoms were attributed to the use of the stramonium ointment: it was, therefore, ordered to be discontinued, and simple ointment to be applied.

24th.—The sore is greatly contracted; its surface, which is healthy, is now on a level with the skin of the breast and with the nipple situated at its lower edge.

September 4th.—Except a very small part, the sore is skinned over; the cicatrix is only three inches in length vertically, and one and a half transversely. The adjacent parts of the mammary gland and the axilla are sound.

RECURRENT CANCER OF THE BREAST, REMOVED.

CASE 25.—Ann B., æt. 35, a healthy-looking, florid, married woman, from Wandsworth, came as an Out-patient. She had a long cicatrix extending from above the nipple to the middle of the axilla, the mark of an operation by which the superior portion of the breast had been removed. The upper extremity of the scar remained healthy, and lay flat on the chest; but its lower part and the whole adjoining upper edge of the breast, were raised by a hard, long, prismatic growth of cancer. In the axilla, apart from the cancer of the breast, was one hard, enlarged gland, which was moveable over the ribs. Nipple not retracted.

She first noticed a tumour in the breast in April, 1854. In October of the same year the tumour was removed by operation; the nipple and lower half of the breast being left. Hard swellings returned in the scar in October 1856, and she has since been suffering pain in it.

March 16th.—The treatment was begun as usual, the acid being applied separately to the mammary and axillary tumours. The treatment gave her considerable pain. There were six incisions in the breast, and two in the axilla.

26th.—Owing to the eschar in the axilla being loose, and being torn in the movements of the arm, some bleeding has taken place: it was accordingly cut away to-day.

April 13th.—The eschar of the breast is elevated two inches above the level of the remainder of the gland, which shows how rapidly the cavity, in which the tumour was imbedded, is being filled up by healthy structure; in the arm-pit cicatrization proceeds favourably. Although, when the treatment was commenced, the patient appeared healthy, she has gained in flesh, and is altogether more robust. Living at Wandsworth, she comes that distance daily to the hospital.

22nd.—For a week past it has been daily expected that the eschar would drop out, and during that time some loose portions of it have been clipped away. To-day the large mass became detached.

June 3rd.—The sores have nearly closed; and they appear healthy.

RECURRENT CANCER OF BREAST REMOVED.

CASE 26.—Martha G., æt. 53, tall and spare, had had cancer of the left breast seven years. In December, 1855, the breast was removed by operation. The disease reappeared four months afterwards. A scirrhous mass above the cicatrix, near the axilla, and the diseased cicatrix itself are adherent to the chest.

The treatment was begun April 1st. The eschar was removed 12th May; it was about five inches in length in its transverse direction, and three and a half vertically. A portion of the cartilage of the third left rib was exposed on its removal.

June 22nd.—She was made an Out-patient on the 16th instant. The piece of cartilage being loose, was removed. It was an inch and a half long.

24th.—Three small cancerous growths in the unhealed sore were treated with the paste.

July 14th.—Sore almost healed. It is free from disease, and she is about to return home. There is an adherent enlarged gland, high in the axilla, and fixed to the skin and the chest.

RECURRENT CANCER OF BREAST.—TUMOUR REMOVED.—RETURN.

CASE 27.—Isabella N., æt. 44, a servant, single, was admitted April 21st, with a tumour formed in a cicatrix, after excision of the left breast for cancer. The disease commenced two years ago. Eight months afterwards, the breast was removed by the knife. One month after the operation, a tumour began to form in the cicatrix. Nevertheless, the wound closed. The cicatrix was vertical, and near its upper extremity was a tumour of the size of the large end of a hen's egg, covered partly by sound skin and partly by scar. Together with the skin around, the tumour was firmly fixed to the parts below. The treatment was commenced at once, by applying the acid, and afterwards making incisions for the introduction of the paste. Early in June the eschar dropped out. Until the end of that month the sore filled up without any untoward appearance; but at that time there began to be noticed, at the upper and inner angle, an elevated hard margin-like cancerous ulceration. A small dense gland, not larger than a pea, was also felt, loosely attached, in the axilla.

July 13th.—Cicatrization has taken place, yet the suspicious hardness of the border of the sore continues. The patient being obliged to return to Croydon, she has been warned of the danger of

a return of the disease, and urged to attend once a week. Ordered to apply the compound iodide of lead ointment to the induration.

August 24th.—The tubercle has gradually increased in size, and is now as large as a hazel-nut. It is covered by sound skin; but near its base there has lately formed a small oval ulcer, presenting the characters of cancer: and an inch lower down, is a still smaller one of similar appearance. She has been recommended to enter the hospital again to have the treatment renewed.

RECURRENT CANCER OF MAMMA: EXTRIPATION.

CASE 28.—Ann T. act. 48, has had cancer of the left breast for six years. Three and a-half years ago the breast was removed by operation. But the disease returned six months afterwards. She came to the hospital June 10th, with a small scirrhous growth in the cicatrix. The axilla was healthy.

A flat eschar, $2\frac{1}{2}$ inches in diameter, was brought away 2nd of July by the treatment. A reapplication of the paste was made for a few days at the end of the month, as there appeared a disposition to a renewal of the disease in the sore. By the 8th of August, when she left the hospital, the sore was cicatrizing favourably.

This patient, who had a peculiar expression of countenance and manner, indicative of insanity, was maniacal for two or three days soon after her admission into the hospital. As, however, the diseased surface was small, and the pain of usual amount, and as a similar state was not reproduced upon the renewal of the escharotic, it was clear that those symptoms were not due to the treatment.

CANCER OF BREAST EXTRIPATED: RECURRENCE OF DISEASE.

CASE 29.—Elizabeth H., act. 58, was received as an Out-patient May 13th, with a scirrhous tumour of the right breast, of two years' growth. The incisions, five in number, were daily deepened, and dressed with paste till the 27th; and on June 3rd the slough was removed. It measured 5 inches by $3\frac{1}{2}$ inches, was $1\frac{1}{2}$ inch thick, and weighed $2\frac{1}{2}$ ounces. On June 19th the sore, which was $2\frac{1}{2}$ inches in its long diameter, and less than 2 inches in its short diameter, and was $\frac{3}{4}$ of an inch in depth, had healthy granulations, and the newly-formed margins were sound.

June 26th.—Nearly the whole sore has now contracted to a deep narrow pit. But it heals no further, the hardness about it showing evidently that some cancerous matter remains at its base. A hard cord extends from the sore towards the axilla, but no diseased gland can be detected in that situation.

July 30th.—The wound is quite healed, and the scar itself is apparently healthy. There are some cancerous tubercles and thickened skin internal to it. There is, also, a little fulness behind the pectoral muscle; but the axilla is healthy.

CANCER OF BREAST AND GLANDS—FORMER EXTIRPATED.

CASE 30.—Eliza H., æt. 34, has a round, flat, tender, cancerous growth in and above the centre of the right breast. Its diameter measures $2\frac{1}{2}$ inches. The nipple is retracted. In the axilla is an enlarged and rather soft gland; the subclavian triangle is full, but no distinct gland can be perceived in it. She states that her health is usually not good, that the tumour appeared five months ago, and that she experiences shooting pain and heat in the breast.

The treatment was begun April 1st. It was painful; but she took opiates and had excellent nights. The tumour came out on the 5th of May, but as a portion of it remained, the treatment was recommenced.

June 24th.—The remaining diseased structure grew rapidly under the renewed treatment, so that the final eschar was but little smaller than that originally removed. It also extended deeply. The pain attending this repetition of the treatment was more severe than the earlier suffering, and when the tumour came out, there still remained a solid growth beneath the skin at the outer edge of the sore. She declined further treatment with the paste on account of the pain. Ung. plumbi iodid. comp.

July 15th.—Wound healing. The tumour just external to it is not larger; and that in the axilla is not more than half as large as it was a month ago.

August 1st.—Sore almost healed, the other parts remain as before.

OPEN CANCER OF RIGHT BREAST.

CASE 31.—Sophia M., æt. 64, a married woman, blind and deaf, and in a pale and feeble condition, was admitted April 14th.

There is no trace of the right breast, but in its place is an oval mass of hard cancer, the central part of which is excavated into a deep ulcer, $3\frac{1}{2}$ inches in transverse, by $2\frac{1}{2}$ in vertical, diameter. The base is unattached to the chest, and has no vascular activity about it; the bottom of the ulcer is a dark dirty slough. The whole disease had existed three years, the ulcer five months.

The treatment was begun by inserting the paste, spread on cotton wool, into the ulcer, and pressing it into contact with all parts of the cavity. After a few days vertical incisions were made along it.

Upon the falling out of the eschar, the sore appeared healthy, and contracted with much rapidity, until it was no larger than a shilling. At that stage, however, it was observed to be hollow, its base was not formed of healthy granulations, and its lower edge was felt to be hard. For some time it was treated with the acetate of copper and tobacco ointment, but did not materially improve. A gland in the axilla is cancerous.

The treatment was begun again, July 2nd, in the same manner as at first, the paste being put into the small cavity. It did not effectually remove the deep mass upon which the ulcer was based: and accordingly, on the 30th July, the acid was applied to a crescent-shaped surface of skin beneath the ulcer, and the treatment pursued through it. August 15th.—The eschar was removed, leaving a portion at the base.

September 14th.—The sore, which is of the size of a half-crown piece, and is an inch deep, has again assumed an undoubtedly cancerous appearance. Both it and the hard base around are moveable on the chest, and may be attacked again.

CANCER OF BREAST AND GLANDS, INCOMPLETELY EXTIRPATED.

CASE 32.—Sophia P., *aet.* 36, married, in ill health, and suffering, was treated as an Out-patient.

The cancer in this case is a prominent, elongated, hard mass, nearly 5 inches in length, reaching from within $2\frac{1}{2}$ inches of the nipple into the axilla, where it ends in a cord as thick as the little finger, formed by the condensed cellular membrane around the absorbents. Separate hard and small glands are also to be felt in the axilla. The whole disease is of two years' growth.

The nitric acid was applied on the 4th of March. Seven incisions were made. The use of the paste was discontinued on the 2nd April. By the 9th of April the whole eschar was out.

13th.—The sore is healing. A mass in the axilla, half as large as a hen's egg, is brought down within reach of the treatment by the energetic contraction of the healing sore. It was treated and came away.

June 12th.—The anterior parts of the sore and the breast are healthy, but the axillary edge of the former is still somewhat hard. A growth as large as a walnut has recently appeared behind the pectoral muscle. She goes for a month into the country.

The treatment in this case occasioned unusually great suffering, partly perhaps from her being treated as an Out-patient, partly from the situation of the eschar.

OPEN CANCER OF THE LEFT BREAST—RETURN OF THE DISEASE.

CASE 33.—Anne G., æt. 39, a needlewoman, was admitted for ulcerated cancer of the left breast, June 18th. Two years ago she noticed, near the nipple, a lump like a nut under the skin. That tumour enlarged ; and a year ago the skin over it became discoloured. Ulceration took place a few months back ; and now there is situated, on the inner and under part, an ulcer with foul sloughing surface and sanguous discharge. There is an indurated gland in the axilla. Owing to her dread of an operation, she has declined to let any medical man see her breast till now. To-day the acid was applied to all the sound skin over the tumour.

June 26th.—In the eschar, which measures five inches transversely and four vertically, and is chiefly on the fore, inner, and lower parts of the breast, six incisions are dressed with the paste. Much of the slough is soft and friable. The line of demarcation begins to deepen. The adjoining redness is not considerable. Although of a nervous temperament, she bears the treatment well ; sometimes, however, she expresses herself in very strong terms as to the great severity of the pain.

July 3rd.—Dressing with the paste discontinued.

14th.—The eschar came away.

30th.—Cancerous growth shows itself in the outer part of the breast. It is treated with the paste. In hopes of subduing the pain, the skin external to the sore was painted frequently in the day with tincture of aconite. She derived more ease from the lead lotion.

August 11th.—The cancerous growth on the axillary side has enlarged. As it could not be reached by applying the paste from

the inside of the ulcer, after congealing the part, nitric acid was applied to a large portion of the skin on the outside. Notwithstanding the freezing, the patient experienced much pain from the acid.

15th.—Eight short radiating incisions penetrate the newly formed eschar.

21st.—The dressing of the incisions with the paste was discontinued to-day.

26th.—The eschar dropped off.

31st.—The surface of the sore has reached the level of the adjoining skin.

September 5th.—At the inner border of the sore, and within the part newly skinned over, there has lately appeared an elevated ridge of cancerous nodules, the largest about the size of a hazelnut. The surface of the sore is rugged, and in parts manifests the characteristic appearances of cancerous ulceration.

10th.—The paste has been applied daily to detached parts of the sore where the disease was reappearing, and horny eschars have formed. The treatment has given much pain.

LARGE AND VERY RAPID GROWTH OF CANCER IN THE BREAST, UNSUCCESSFULLY TREATED.

CASE 34.—Ellen D., æt. 43, was admitted Feb. 23rd. She is a servant, unmarried, and in ordinary health. The whole right mamma is greatly enlarged, partly with firm œdema of the integument, but chiefly with a mass of cancerous disease, which occupies the whole of its deeper part. The skin generally has a rugged surface, and appears intimately incorporated throughout with the diseased gland. The growth approaches the surface in a few parts, and is there felt to be as hard as scirrhus. There is a large gland in the axilla. The whole disease is of less than three months' duration.

She was kept at rest, and purged, and the breast was assiduously moistened with the lead lotion. On the 2nd of March, the œdema had subsided, yet the whole breast had increased in size, the base measuring $6\frac{1}{2}$ inches in diameter, and the surface curving over that base 9 inches. The external half of the tumour was generally soft, but hard in spots, and the skin covering the breast was spotted in different parts red and yellow. There was no fluctuation in the soft parts of the disease.

5th.—Nitric acid was applied over a large extent of the surface, and the paste afterwards put on. As chloroform was used, she

had no pain at the time, but she had no sleep in the following night.

7th.—She had a good night, and not much pain by day. What pain there was, was felt not in the breast, but in the armpit and shoulder. The redness surrounding the eschar was slight. Ten parallel incisions had been made. Their depth was still so little that no strips could be inserted, and the paste was laid over the eschar; it overlapped the healthy skin also. She has so much ease to-day that it is evidently best to destroy the skin thoroughly with the acid at the first, as was done in her case.

9th.—She did not sleep on the night of the 7th. Yesterday the dressing was omitted, and last night she slept. The inflammation around the eschar has subsided everywhere, except towards the axilla, where it is active, and there is much tenderness. She feels sick, has a coated tongue, no appetite, and a pulse of 96. Strips were inserted to-day for the first time, though the incisions through the parchment-like skin do not yet reach the depth of $\frac{1}{8}$ of an inch.

10th.—Tongue clean; bowels not open; pulse 108. Her sickness has subsided, and she slept a little, but she looks harassed, and suffering, and a little pale. There is less redness in the axilla.

11th.—Redness much diminished, but she still shrinks from having the axilla touched, and complains of pain in it, and in the shoulder. The whole breast is less convex, but the incisions are still shallow, being nowhere so deep as $\frac{1}{4}$ inch. She feels weak, and very thirsty, and has no appetite. It has been evident up to this time, that the breast has been increasing in size since the treatment has been begun.

13th.—She feels better, though still weak. She was kept awake last night by pain in the shoulder. Her appetite is returning. The incisions to-day are nearly $\frac{3}{4}$ inch in depth. The tissues disclosed by them are soft lobules, enclosed in thick cyst-like walls.

16th.—She looks and feels better, and is in less pain. For hours together she has no pain, and then sometimes it is only shooting and transient. When pain lasts for any time, it is in the shoulder and arm. She does not take opiates.

28th.—Small cysts have been opened, and the incisions have penetrated more deeply. The paste has evidently been overtaking the formerly rapid growth of the disease; the tumour having

ceased to enlarge. The incisions are now more than an inch in depth, and the dressing will not be renewed after to-day. The deep trench around was dressed with stramonium ointment. Afterwards a poultice of the powder of the slippery elm was applied over the slough; but one of linseed was subsequently thought to answer better.

The pain has been very moderate throughout the treatment of this case, except during the first period, and probably during the extension of the slough to new skin; for the eschar has enlarged beyond the first limit of the incisions, an inch and a half downwards, and an inch and a quarter towards the axilla. She went to get her photograph taken at nearly a mile distance, without fatigue.

April 15.—The mass, when removed to-day, weighed 17 oz., and measured $6\frac{1}{2}$ inches by $4\frac{1}{2}$ inches. The level of the bottom of the sore was very superficial. Paste was then applied to some thickened and diseased parts on the axillary side of the sore, and a slough separated in a few days.

The vast sore was dressed with the stramonium ointment. A few days afterwards, we found Ellen D., and some other patients on whose ulcerated wounds the same ointment had been applied, with hot perspiring skin, agitated expression of countenance, knit brows, dilated pupils, and feeble rapid pulse, dry tongue, and constriction of the throat. These symptoms were evidently due to the absorption of the stramonium. The ointment was thenceforward made in the proportion of one pound of the stramonium leaves to six, instead of to four pounds of lard. The effects passed off in two or three days.

May 1st.—The sore measures $3\frac{1}{4}$ inches across and $2\frac{3}{4}$ inches vertically. It looks healthy except in two parts of its edge. At the upper and inner part it is cancerous, and some nodules of the same nature have lately appeared in the skin adjoining that part. The axillary edge is likewise diseased, and needs treatment.

25th.—Her aspect is much worse. She looks ill, anxious, pale, and thin. The sore drags itself by its own contraction into circular ungranulated spots, and additional nodules of cancer are forming here and there upon it. A large mass has grown behind the pectoral muscle, raising it, even so far as the clavicle, above its natural level. All that part of the chest is marked with enlarged veins. The arm swells.

June 30.—The disease in the wound has formed an outgrowth,

which it has been thought advisable to repress by a renewed application of the paste. The arm is fixed to the side by its connexion with the mass of cancer in the axilla. Above the right clavicle is a cluster of enlarged glands ; and there is a single enlarged soft gland above the left clavicle. The pain and œdema of the right arm are somewhat relieved by a bandage.

July 20th.—The sloughs separated, and the ulcers in the situation of the mamma became more superficial, and even cicatrized imperfectly. But the disease is more developed in the direction of the armpit. She is confined to bed, chiefly on account of the weight of her arm. Her sufferings are great, and her strength is much exhausted.

September 15th.—She has been progressively getting weaker : her appetite has failed, and her strength is kept up by stimulants.

CANCER OF NIPPLE REMOVED.—A RAPID GROWTH OF CANCER IN
THE BREAST AND AXILLA.

CASE 35.—Harriet H., æt. 44, a well nourished and healthy looking married woman, admitted February 24th.

A flattened tumour, about equal in circumference to a half-crown-piece, hangs by a short narrow pedicle from the areola near the left nipple. Its surface is red, papillary, and constantly moist. The tumour itself is neither erectile, tender, nor painful. The areola, with which the tumour is in contact, is likewise moist and red, but not papillary, as the growth is. There is a considerable swelling of the outer half of the breast, and in the axilla is a hard massive gland. The nipple had been sore for two years, the tumour has grown rapidly in the last four or five weeks.

She was kept quiet for a few days, and the breast was covered with the lead lotion. On the 5th of March the treatment was begun by the destruction of the pendulous tumour with the paste. In about a week it came away in pieces, the separation being attended with great pain. The paste was then applied to the areola, and carried by incisions deeply into the substance of the mamma. On the 6th of April an eschar came away, measuring more than two inches across, and more than an inch in depth. In its place appeared a concave healing sore.

By the 20th of May, a large growth of cancer had formed in the substance of the breast behind the sore. The acid was there-

fore applied over a large extent of the skin, and the treatment recommenced.

June 24th.—The eschar measures seven inches across by six inches vertically. There are but six incisions in it, which gape widely. The tumour has grown with great rapidity, even during the treatment. A soft broad swelling over the pectoral muscle has also appeared, and the gland in the axilla has increased in size. The eschar was removed to-day.

July.—After the removal of the eschar, the sore contracted as in the ordinary process of cicatrization, but its base grew forward into a convex projection, the surface of which was formed of very large granulations, so pink in colour as to be supposed to be cancerous. The ointment of tobacco and acetate of copper was applied over it, and the process of healing advanced. During the same time, although some cancerous tubercles formed in the skin covering the axillary and pectoral tumours, both those tumours diminished in bulk under the use of the ointment of the iodide of lead.

August.—This patient suffered a good deal during the latter part of the treatment with the paste, and the separation of the vast eschar. She has since then improved considerably in general health, and though paler than when admitted, has not lost much flesh.

September 4th.—The axillary and pectoral tumours, and the tubercles of the skin, have undergone no perceptible change. The sore has almost completely cicatrized. The glands on the right side of the neck are enlarged and indurated to an equal extent as those on the left side.

LARGE AND RAPIDLY GROWING CANCER OF THE BREAST, INCOMPLETELY EXTIRPATED.

CASE 36.—Mary Ann T., æt. 64, was treated for some time as an Out-patient, but was afterwards admitted into the hospital. She was a tall, well nourished woman, somewhat pale, and having in her countenance a look of suffering.

She had a cancerous growth of considerable size in the left breast, which, when first observed five months before, was no larger than a hazel nut, but on admission, measured $4\frac{1}{4}$ inches across, and $3\frac{1}{2}$ vertically. Above and on the outside of the nipple, a red, soft, elastic outgrowth protruded from the surface, the size of which was about that of half a damson. The veins around the

breast were rather large, and there was in the axilla a group of glands, which, while loose below, were adherent above. No glands were enlarged above the clavicle. She suffered much pain, and had but little sleep or appetite.

The treatment was begun on the 10th of April. The acid gave such unusual pain, and that of so long continuance, that she was compelled to send for a surgeon to give her an opiate. On the 28th, a large cyst was opened behind the projecting outgrowth, and it continued for many days to discharge a large quantity of putty-like matter. The treatment throughout has occasioned an unusual amount of pain.

The last dressing was on the 2nd of May, it being discontinued as soon as possible, in consequence of the severity of the pain. But eventually more suffering was experienced than if the treatment had been thoroughly completed at first. For when the eschar was removed, a broad base of disease was found still remaining, which had to be attacked again, at the beginning of June. The outer half of the base of the growth enlarged more rapidly than the whole tumour had done, and bled readily at every dressing. The pain of the second series of dressings was also greater than that which attended the first.

June 26th.—The second tumour is in great part removed; but there is a return of the disease, in a tumour not so large as a cherry, at the outer edge of the ulcer.

The glandular disease in the axilla has increased of late, and no further treatment is to be adopted. The iodide of lead ointment was applied on the axillary tumour.

July 2nd.—The glands in the axilla form a large hard mass, and are much more adherent than formerly. The pectoral muscle is also raised above the level of the opposite side of the chest, and the veins on the surface are more distinct.

August.—The vast sore from which the eschars were taken has contracted comparatively to an exceedingly small size. Two cancerous growths sprout from it, the united bulk of which would nearly equal the size of an egg. The axillary tumour has not increased lately, and her general health is pretty good, but she is thinner, and still suffers much pain.

CANCER OF AXILLARY GLANDS AND BREAST, INCOMPLETELY EXTRIPATED AFTER TWO ATTEMPTS.

CASE 37.—Grace S., æt. 65, was admitted April 18th. She was tall, rather sallow, and thin; she was also much dejected in mind, and sought admission only in consequence of the persuasion of a lady, who had derived benefit from the treatment of Dr. Fell.

A cluster of much enlarged glands formed a hard nodulated tumour, nearly half as large as an orange, below and behind the edge of the right pectoral muscle. The skin was everywhere healthy, and the right breast without a trace of disease. In consequence of surprise being felt at the absence of a primary growth in the breast, it was repeatedly and carefully examined, but no tumour could be discovered.

The axillary tumour was attacked with the acid and paste in the usual manner. On the separation of the eschar, the treatment was recommenced for the removal of a small portion of disease which lay in the higher part of the axilla, and which had either escaped destruction or recurred.

As the second slough loosened itself from the axilla, the anterior edge of the ulcer, which had appeared healthy, began to manifest decided cancerous action. It became elevated, tuberculated, hard, and of a pink colour. At the same time, a small hard tumour was first felt in the substance of the breast, a little on the axillary side of the nipple. Within a few days, five or six cancerous nodules appeared in various parts of the skin covering the outer half of the breast. The intermediate skin, however, was soft, and presented no trace of disease. The breast itself, likewise, was everywhere natural, except where the tumour had at last shown itself, and the nipple was healthy and not retracted.

Seven weeks had elapsed since the treatment had been commenced, and the patient, originally dejected, and made still worse by repeated bilious attacks, to which she was subject, was grieved beyond measure at the ill-success of the treatment.

June 3rd.—The outer half of the breast was washed with nitric acid, from the edge of the ulcer inwards. The eschar included the nipple and a wide margin of healthy skin beyond all the cutaneous tubercles. The paste made its way very quickly through the healthy breast-tissue; and the large slough was removed on the 30th June.

July 15th.—The sore contracts, but its whole circumference is

cancerous. All the skin adjoining it, even over the inner half of the breast, is thickened, though there are as yet no tubercles in it. The deepest part of the ulcer in the axilla is still cancerous, and there is an extensive growth of cutaneous tubercles at the back of the axilla and over the scapula. The elbow swells a little. The patient suffered and complained greatly during the treatment, but she has improved in general appearance since the cessation of it, and whilst taking nitro-hydrochloric acid. She will return to the country to-morrow.

Nothing could be more disastrous than this case ; and there is no reasonable doubt that the tumultuous increase of the disease was directly due to the local treatment.

SCIRRUS OF THE BREAST—ENUCLEATION OF THE TUMOUR.—

RETURN OF THE DISEASE IN THE SKIN.—DISEASE IN THE INTERNAL ORGANS.

CASE 38.—Emilia D., 40, a married woman, was admitted into the Middlesex Hospital, December 23, 1856. She was pale and feeble, her brows were knit, and she had a troublesome cough, and a wearied ailing appearance, though she was not emaciated. She had a scirrhouss cancer in her right breast, which she had noticed for three months, and a small, hard, bullet-like gland in the axilla.

The treatment of this case was begun on the 22nd of January, by washing the skin over the tumour with strong nitric acid, and applying the paste to the burnt surface. The pain was described as having been very severe indeed, but there were two causes by which the unusual amount of pain in this case could be accounted for. In the first place, an application of lead to the skin in the previous treatment of the case considerably retarded the escharotic action of the acid : and, in the next place, the breast was much shaken by her cough. As soon as the cough had subsided, and the skin was destroyed to its whole depth, the pain yielded, and the patient became cheerful.

The first incisions were made about three-eighths of an inch apart, and were deepened daily, and filled with strips of calico smeared with the paste. Care was always taken not to extend the incision beyond the slough, as the haemorrhage was troublesome.

January 29th.—The total depth of the incisions in the week is

about half an inch. The surface last cut is seen to be of a whitish ash colour. That of previous days is tinted by the cochineal, the skin is dark and dirty brown, dry, and shrunken. She speaks of having no feeling in the part itself, but of dragging and gnawing sensations, not amounting to pain, in the breast around. The eschar has shrunk, and lost much of its prominence.

February 5.—The incisions in the second week have been deepened to $1\frac{1}{8}$ inch. She complains of aching in the back, of pain in the axilla and down the arm, and of a feeling as if the breast itself were pressed with a 4lb. weight.

12th.—The tumour having been fully penetrated by the incisions, the strips were inserted for the last time to-day. During the third week just ended, the pain has varied both in its seat and amount, but she has only suffered severely since yesterday, when her cough returned, and the breast has ached.

After the application of the paste had been discontinued, the pain was altered, but not diminished. A poultice was applied at first over the whole tumour, and then water dressing. The dead mass rose slowly above the surrounding surface, being pushed forward, as it separated, by the granulations. The latter at length formed quite a flat surface, and the eschar became very prominent. Nerves and other bands were divided with scissors as they were exposed crossing the gap between the living and dead parts. At length, March 2nd, the last adhering part of the base was cut across, and the tumour removed. It was $3\frac{1}{2}$ inches in breadth, by $3\frac{1}{4}$ in vertical dimensions. A perfectly healthy sore remained, everywhere level, except at its axillary edge, which was undermined.

March 7th.—The sore is healing ; it is three inches in its longest diameter.

14th.—Longest diameter two inches. The glands have become more apparent in the axilla, being perhaps drawn down by the contracting sore. One is half an inch from its axillary edge. She looks wearied, ailing and sallow.

20th.—A pain beneath the left scapula, which she has had for some time past, is still severe.

25th.—Acid was applied over the axillary glands, which were adherent to the skin.

April 1st.—The paste was applied daily in incisions, until to-day. The glands afterwards sloughed out.

25th.—The sores all healed. Some cancerous nodules have

appeared in the skin adjoining the cicatrices since the last date, and the general health of the patient has manifestly fallen off, notwithstanding that she has continued to take the sanguinaria pills. She has become extremely sallow ; her langour and dejection of manner and feeling have considerably augmented ; and she leaves the hospital, relieved indeed of her tumours, but apparently near her end from cancer of the internal organs.

CANCER OF BREAST REMOVED : RECURRENCE OF DISEASE.

CASE 39.—Martha R., æt. 41, a married woman, with a ruddy, healthy-looking countenance, was admitted March 25th.

In the upper half of the right breast were two hard tumours, having the characters of scirrhoue cancer ; the inner one, which is of two years' growth, was of the size of a hen's egg, the outer, one year old, was as large as a small plum. The areola was raised by and adherent to one of them, and was red and attenuated. In the lower segment of the breast were three other tumours, equally hard, but smaller. The nipple was retracted. There was no secondary disease. The tumours had chiefly grown in the last six months.

March 25th.—The acid was applied over a surface of $5\frac{1}{2}$ inches in vertical diameter, and $4\frac{1}{2}$ inches across. On the 30th of April the eschar was removed. It weighed three quarters of a pound.

May 29th.—The cicatrix is nearly complete, and measures $3\frac{1}{2}$ inches by 2 inches. An inch and a quarter inside the scar a small cancerous tubercle has lately appeared in the skin. She has pain above the scar, but neither cutaneous tubercle nor deep disease can be discovered. She has also pain down the arm, but no perceptible disease in the axilla.

June 2nd.—She requested to be made an Out-patient.

9th.—Under the use of the iodide of lead ointment the tubercle of the skin has diminished in size.

29th.—There is a little thickening at the outside of the scar, and a gland in the axilla is unusually distinct.

July 8th.—The scar is healthy, but at its outer edge two tubercles or tumours have appeared. The inner cutaneous tubercle is larger. She has much pain in the arm.

August 27th.—The cutaneous tubercle, the tumours outside the scar, and the pain, have all increased. She is paler than she has yet appeared, and has an aspect of suffering.

VERY LARGE CANCER OF THE BREAST AND SKIN.

CASE 40.—Johanna T., aet. 38, a large muscular woman, but pale, came in July 1st. She had had a cancerous tumour in the left breast for two years; but it had not reached a larger size than that of a walnut, until fourteen months ago, when she was confined. She suckled her child with the left breast only, a week after confinement, and weaned him at the age of nine months.

During and since lactation, the lump grew enormously; and now it forms a large, convex, and extremely hard tumour, occupying nearly the whole mamma. It is moveable over the chest, but the whole of the skin over it is of a dusky purple colour, hard, and intimately united with the tumour. The outskirts of the disease are not exactly defined. Some glands are enlarged in the axilla, forming a tumour. A few are also to be felt, small and hard, above the clavicle.

Chloroform was administered, and the acid was applied over an extent of surface $5\frac{1}{2}$ inches in vertical direction, by 6 inches across, the crusted nipple and areola excepted.

The succeeding inflammation was considerable, but the pain attending it was much relieved by a lead lotion. That arising from the action of the paste was, in no Case, more moderate. She only occasionally complained of pain, and of having her nights disturbed. The treatment was discontinued at the inner part of the tumour before the whole of its axillary side was destroyed; and it was then noticed that she complained much more of the pain arising from the ulcerative process going on behind the inner part of the tumour, than of the action of the escharotic on the outside.

August 24th.—The large eschar is protuberant, and has apparently slid down, so as at the lower part to overhang and obscure the ulcerated circle of demarcation. Nevertheless, it is firmly attached to the chest. The skin bordering the inner and upper sides of the slough, to the extent of three inches in the former part, is elevated, rugged, and discoloured, of a red or purple hue, from the springing up of cancerous nodules—which have also formed within the line of demarcation. A prominent tumour, with a fixed base, has lately protruded between the borders of the deltoid and pectoralis major muscles. The glands in the axilla and above the clavicle have recently increased much in size.

She still complains of severe aching pains in the lower extremities, which began twelve months before her admission into the hospital.

September 9th.—The slough dropped off this morning. It weighed 18 ounces and 1 dram. Transversely it measured $6\frac{1}{2}$ inches; vertically $5\frac{1}{2}$ inches; and it was 3 inches thick. The sore from which it fell measured transversely 5 inches; vertically 3 inches. The borders of the sore, in nearly their whole extent, are affected with cancerous growth and ulceration.

CANCER OF BREAST.—SUDDEN DEATH FROM DISEASE OF THE
HEART, DURING TREATMENT.

CASE 41.—Oliffe P., æt. 43, was received as an Out-patient, for an open cancer of the breast. The tumour, which is in the centre of the gland, had existed for two years: the ulceration commenced, near the nipple, a year ago. During the last three months she has been ailing greatly, and the pain in the breast has been excessive. The treatment was begun with the application of the acid, March 25th. The pain she experienced was acute. The eschar was nearly three inches in diameter, and there were six incisions. Till April 13th, the process of separation was going on satisfactorily. Shortly after that date, she was missed from among the patients, and was found to have unexpectedly and suddenly died.

All the organs were found healthy, except the lungs and heart. The former were studded with numerous nodules of cancerous matter, to all appearance of the encephaloid variety. The heart was somewhat fatty, and its valves were roughened with some vegetative growths.

There was nothing in the course of the disease or treatment of this patient's breast which differed from that in other persons. The fatal termination of the case was unquestionably due to the thoracic complications only.

CANCER OF MAMMA.

CASE 42.—Sarah M., æt. 36, has a large cancer of the right breast. On the axillary half of the breast, and adjoining portion of the axilla, is a large surface of green slough, partly hanging in shreds. The rest of the surface of the breast is red, excoriated, and in parts discharging pus freely. It was evident that some violent escharotic application had been made to the skin, but it had proved ineffectual for the destruction of the deeper cancerous disease.

The disease was so extensive, and the skin and axilla so much involved, that the case was declined.

She left the hospital the next day.

| CHRONIC MAMMARY TUMOUR, REMOVED BY THE GRADUAL
INCISIONS AND ESCHAROTIC PASTE.

CASE 43.—Ann A., æt. 37, was admitted 1st of March, for a chronic mammary tumour, which she had had for five years. It was situated in the upper part and substance of the breast, and was not larger than the last joint of the thumb. The pain which it caused, induced her to desire its removal, and she applied to have the extirpation performed on the plan of Dr. Fell.

A great deal of persuasion was wasted upon this patient to lead her to submit to a cutting operation. The freedom from pain which would be ensured her by the use of chloroform, and the rapidity of the usual operation in such cases, were set before her, and were contrasted with the long duration and painful character of the caustic process. But no argument availed, and Dr. Fell consented to undertake the treatment. The result supplied a third and unexpected argument, besides those which were used with her, against employing the paste needlessly in the removal of innocent tumours.

Small as the growth was, the eschar in which it came away was of very large size. It was necessarily made of considerable depth, that it might include the tumour, and its diameter measured $2\frac{1}{2}$ inches. The pain was great, the resulting sore was large, and as the eschar included the whole of the upper part of the areola, the nipple necessarily adjoined the cicatrix, and became liable to discomfort, if not to be useless in suckling.

She left the hospital 19th of May.

This case furnishes a refutation of the statement, that the escharotic paste does not act on natural tissues. The tumour and the breast tissue around it, were destroyed as readily as if they had been cancerous.

EPULIS OF THE UPPER JAW: TUMOUR ENUCLEATED.

CASE 44.—Mary M., æt. 53, from the country, was admitted April 12th, for a tumour, which projected considerably beyond the lips, from the alveolar processes of the right side of the upper jaw, apparently fibrous in structure, and of the nature of Epulis.

In shape and size, the tumour bore resemblance to the front half of the tongue. Its base included the whole line of the alveolar processes of that side, from the central incisor to the last molar tooth : there was also enlargement of the maxillary bone, extending to the base of the antrum ; and that gave rise to a marked protuberance of the lower part of the side of the face, with a distortion of the nose, produced by the right ala nasi being elevated and stretched over the growth. The thickness of the tumour, where it emerged from the borders of the alveolar processes, was greatest at the site of the canine tooth, being there about an inch and a quarter : it then thinned gradually, both laterally, and forwards, and backwards. From that line, as a base, the tumour projected forwards and downwards, in a triangular form, ending in a tip, like that of the tongue ; the length from the base to the apex being about two inches ; and that across the base about the same. The upper lip, expanded to more than three times its normal size, concealed merely the root of the tumour, the rest being exposed to view. The surface was slightly rough and unequal, and resembled the structure of the gum, with which it was continuous. The substance of the growth had that degree of firmness and resilience which belongs to fibrous tumour. In the interior of the mouth, the substance projected slightly inwards, expanding the alveolar processes and gums : but the hard palate preserved its natural shape.

The disease began eighteen years ago, in a lump of the size of a hazel-nut, which formed on the gum near the lateral incisor tooth. The swelling gradually enlarged without giving pain, till it attained its present size. The only treatment pursued has been to extract the teeth, as they became successively involved in the tumour, for she has absolutely refused to submit to an operation with the knife.

April 15th.—The treatment was commenced by applying a piece of calico, of the size of the upper exposed surface, and spread with the undiluted paste, upon the tumour. The effect of the application was to render the surface more callous or horny. On the following and succeeding day, the dense covering was scarified and incised, and the paste put on as before. On the 18th, two transverse incisions were of sufficient depth to admit of strips of calico smeared with the paste being inserted into them. From that time the incisions were gradually deepened and dressed : and by the middle of May, the tumour was reduced so

greatly in size, that the patient could cover it with her lips. At the end of the month, by the gradual removal of the morbid substance, a hollow had been formed between the expanded plates of the alveoli, capable of holding half a chestnut within it: this cavity was treated by slightly scarifying its interior, and afterwards pressing a small portion of cotton wool smeared with paste against the surface, and confining it in its place by dry cotton wool.

June 15th.—The day before yesterday, some of the paste was introduced into the cavity for the last time. To-day, no vestige of the morbid growth is visible. The expanded and divorced alveolar plates, between which the base of the tumour was formerly held, have suffered no injury from the use of the caustic; as seems evident from the gum on each side being quite healthy, and the membrane lining the interior presenting also a healthy surface.

18th.—The swelling of the face, which caused so much disfigurement at first, has greatly diminished; and judging from the rapid improvement in that respect within a few weeks past, it is probable that the inequality in the two sides may soon be little apparent.

23rd.—During the early part of the treatment, considerable pain was felt: towards the close, it seemed to be very moderate. Her health throughout has remained good. She leaves the hospital to-morrow.

EXTIRPATION OF A CANCEROUS TUMOUR WHICH GREW FROM
THE SITE OF THE LACHRYMAL SAC, AND OBSCURED THE
EYEBALL.

CASE 45.—Jane K., æt. 49, a charwoman, formerly healthy, was admitted 20th of February, for a scirrrous tumour, which occupied the hollow between the left eyebrow and the side of the nose, and concealed the eyeball. The tumour was oval. In a vertical direction, it extended from the upper and inner angle of the orbit, on a level with the uppermost part of the eyeball, along the side of the nose, to the ala nasi, measuring two inches in that direction; transversely, it reached from the side of the root of the nose, with which it was in contact, across the front of the eye, to the malar bone, measuring an inch and a half. The only part of the eyelids visible was the external commissure; by depressing

the tumour and elevating the upper lid, the eye could be partly seen, moveable, and in its proper position, and, except for some increased vascularity of the conjunctiva, in a sound condition. The base of the tumour was broad, the mobility was slight; the part which was principally fixed being at the site of the lachrymal sac. The skin was of a livid purple hue ; at the uppermost part the tumour was truncated by an ulcer of the size of a shilling, in the centre of which was a deep depression of the breadth of a quarter of an inch.

The patient had been subject for eight months to a weeping of the left eye, and occasional slight attacks of inflammation. Five months ago, she observed below the inner canthus a lump like a pea ; that increased in three weeks to the size of a hazel nut, but it continued moveable, and the skin preserved its natural colour. A surgeon appears at that time to have taken the tumour for a fistula lachrymalis, and to have attempted twice to introduce a style into the nasal duct. But the tumour continued to enlarge, and owing to the style being constantly pushed out as the tumour grew, it could not be retained. Ulceration then spread from the part where the style had been introduced, causing the ulcer seen at the apex of the tumour to be formed. The patient subsequently came under the charge of Mr. Wharton Jones, who, together with other surgeons, considered her case unsuited for the knife : he, therefore, after consultation with Mr. Shaw, requested Dr. Fell to undertake the treatment of the tumour.

February 23rd.—A thin layer of the undiluted paste was applied on cotton to the surface of the ulcer.

24th.—The ulcer is covered with a black, almost horny scale. This was scored in four places to-day. The whole mass seems broader, and is redder below.

25th.—Redness less ; the pains which she experienced before the treatment began have not increased, but after each dressing she has decided “darting” pain, which continues into the night.

26th.—The mass has diminished in depth, whilst there has been no alteration in the lower part of the tumour. The shrinking must, therefore, arise from the action of the remedy on the upper part of the tumour. The pain from the application is less ; that which she experienced before the treatment began is unaltered.

March 2nd.—The change is most remarkable. The upper part of the tumour is much sunken, and more of the upper lid appears.

The skin covering the front of the tumour has been gradually destroyed, and the ulcer, which at first was horizontal, is now nearly vertical. The depth of the incisions is not more than half an inch, but that measurement does not nearly represent the depth to which the tumour has been destroyed. The undestroyed skin over the tumour is assuming a very healthy appearance, and is becoming freed from its connexion with the diseased growth.

7th.—Half an inch more skin has sloughed as the tumour beneath it yielded to the action of the remedy. She feels during the dressing as if something were being put into her eye. The conjunctiva is inflamed. A nitrate of silver lotion was ordered.

11th.—The dressings were discontinued. The stramonium ointment was applied over and around the eschar.

14th.—Some redness has come on over the nose, and extended to the inner canthus of the right eye, which is œdematosus. A gland over the left masseter became enlarged and tender, and she complained of great pain, as it were in the malar bone. The redness continued several days, without spreading as erysipelas does, and was gone after a brisk purging, by the 25th.

27th.—The eschar loosened itself all round, rose above the surrounding surface, and fell out this day. A healthy granulating surface was exposed, reaching to the lachrymal bone; but so remarkable had been the contraction of the healthy parts before the fall of the tumour, that the area of the healing sore was not equal to more than half that of the tumour. The inner half of the lower lid and the palpebral conjunctiva belonging to it were removed in the tumour.

April 27th.—Except a part at the inner canthus not more than half an inch square, where the granulations are healthy and on a level with the adjacent skin, the whole surface has cicatrized. When made to close her nostrils and blow her nose, no air has been observed at any time to escape through the nasal duct, at the wound. In the process of healing, owing to the contraction of the newly formed skin on the side of the nose, the left ala nasi has been slightly drawn upwards. The remnant of the lower lid was also drawn towards it, but did not fill the whole gap. The ulcer healed with remarkably little deformity, and the sight and movements of the eye were not interfered with.

May 1st.—Patient discharged well.

TUMOUR IN THE PAROTID REGION.

CASE 46.—Mary N., æt. 23, was admitted July 14th. In the situation of the left frontal eminence is an uneven scar, for some distance around which the periosteum is thickened, and the skin is constantly covered with moisture. Immediately in front of the left ear is a large prominent firm tumour, extending upwards to the zygoma, overlapping the masseter, sending one globular lobe behind the ear, and extending downward considerably below the level of the angle of the jaw. The surface of the tumour is uneven, and is marked, and a little indented, by a crucial scar. The mass cannot be moved in its bed, and is adherent to the skin and scar covering it. The movements of the jaw are much restricted. There is no distortion of the features. The patient is not thin, but is pale and unhealthy. Eight years ago, a tumour of many years' growth was removed from the situation of the present scar on the forehead, and there has been no apparent reproduction of the disease. The tumour now existing in the left parotid region, is of five years' duration. Two months ago an attempt was made in a country hospital to remove the growth by the knife; but the operation could not be completed, and the patient was sent home again.

The following account of the previous circumstances of the case has been kindly furnished by the Surgeon under whose care she had been, in the country:

"When she came under my notice, the tumour did not show much above the neighbouring skin. It was situated immediately in front of the ear, and could be felt by placing the fingers below the lobe of the ear, and pressing forward. It was well-nigh immovable, very hard, and very painful when touched, and at other times also. The integument was not discoloured, but it was intimately adherent to the growth beneath. The meatus was narrowed, and almost closed by the pressure of the tumour backwards; the movements of the jaw were restricted, and she could separate the front teeth scarcely an inch. It had existed, I think, somewhere about four years. It enlarged a little during a month or two that she remained in the hospital.

"Its duration and appearance led me to the conclusion that it was not malignant, but some who saw it thought otherwise. I had no great hope of being able to remove it with the knife, its

immobility and want of definite outline gave me misgivings; still it seemed right to make the trial.

"When the tumour was uncovered, I could not make out any limit; it was equally on the flaps of skin which were turned up, as towards the deeper parts: the haemorrhage was very free, but easily within control. The dissection did not reach the temporal artery, and was discontinued, because there was no chance of its *entire* removal. Some cases were undergoing treatment by the chloride of zinc at the time, and its application in this case was discussed; she had already been a long time in the hospital, and looking to the uncertain extent and connexions of the tumour, and more especially to the very doubtful state of her general health, I did not feel justified in subjecting her at that time to so protracted and painful a course of treatment as that must necessarily have been. The wound easily and quickly healed, and she left the hospital; I have seen her once since, and then the tumour had perceptibly increased in size."

The nitric acid was at once applied to the skin covering the tumour in front of the ear; but on rather a smaller extent of surface than corresponded to the area of the tumour, for it seemed important to preserve as much skin as possible in this situation. Five vertical incisions were made, and these were dressed with chloride of zinc, dissolved in liquor opii sedativus, to which flour was added, in order to form a paste. The incisions were deepened, until the anterior appeared to be approaching a resisting body, which was presumed to be the lower jaw. The posterior incision not sufficing for the destruction of that part of the growth which was behind the ear, it was enlarged by a horizontal subcutaneous incision backwards, below the lobule, and the paste was carried into the deeper parts of this prolongation of the tumour. The final depth of the incisions was less than $1\frac{1}{8}$ inch, but a considerably greater depth of solid tumour had been destroyed than would be supposed from that measurement, owing to the gradual shrinking of the destroyed portion: that contraction was further shown by the change of form and prominence of its outer surface, which, having been at first decidedly convex, became, after a few days of percolation of the paste into the substance of the tumour, comparatively flat. It did not further change its shape, and the eschar then remained as one hard inflexible mass, resting upon the bony edges of the parotid space. For several days before the dressings were discontinued, no pulsation could be detected in the

temporal artery. The attempt to save skin was unsuccessful. As much skin was destroyed by the paste, after its introduction into the tumour, as would in another situation have been destroyed at first by the acid.

This patient suffered much from the treatment, passing sleepless nights. It was attempted to diminish the pains by the tincture of aconite: but the lotio plumbi seemed more efficacious. She also found herself unable to move the jaw, and for several days took very little food of any kind. Occasional vomiting took place after she had succeeded in getting liquid into the stomach, and she became very weak. She was supported with wine, brandy, and eggs; and as soon as possible the treatment was stopped, with the intention of removing the large eschar, although it might not contain all the base of the disease. Unlike other patients, she found the period of the separation of the eschar was less painful than the preceding stage of treatment.

August 17th.—The eschar, which measured four inches vertically, three inches transversely, and was nearly two inches in its greatest thickness, was cut away to-day. The cavity from which it was extracted was irregular in depth, but generally superficial; near the ear there was a pit, the bottom of which was three-quarters of an inch below the level of the tragus. Behind the angle of the jaw there is a small but hard fixed swelling.

22nd.—The sore is rapidly filling up, so that the surface of the greater part of it is nearly on a level with the adjoining skin; the granulations are florid and healthy. About the middle of the sore is a small globular protuberance, the character of which is doubtful; yet it is clothed with apparently healthy granulations. Her strength is greatly improved.

September 14th.—The sore has almost healed; but during the past week a hard swelling has formed in front, reaching to the malar bone, where she complains of pain; and within the scar the swelling ends in a nodule, of the size of a hazel nut, obviously of cancerous structure.

RECURRENT CANCER OF FACE.—TREATMENT.—DEATH.

CASE 47.—John D., aet. 54, a cutler, always spare, but generally healthy, was admitted April 7th.

He had a large mass of cancer projecting from the right cheek, measuring $3\frac{1}{2}$ inches across, and $2\frac{3}{8}$ ths inches vertically. Its upper edge was level with the eyebrow, the lower edge descended as low

as the nostril, the inner part extended over the left side of the nose, the outer margin reached beyond the malar bone. The orbit, cheek, and malar and nasal bones were concealed behind it. The surface of the growth was very uneven, being partly ulcerated, partly covered with reddish-purple skin. The highest part of the mass was composed of the eyelids, which were oedematous and closed. Much purulent discharge escaped from between them : the eye itself was sound. The right nostril was closed by a portion of the growth, and matter escaped from it also. Some hardened glands could be felt below the angle of the jaw on the right side.

The whole disease was of less than six months' growth. He first noticed what seemed like a piece of gravel inside the right nostril. In a few weeks a tumour had formed, by which the nostril was closed. It continued to grow with great rapidity, and, in 19 or 20 weeks from its commencement, had become a tumour on the front of the cheek, closing the eye. He then became an in-patient in the University College Hospital, and underwent an operation for its removal. The wound healed speedily, and the nostril was again free ; but in 5 or 6 weeks after the operation a lump appeared again on the side of the nose, which grew with very great rapidity to its present size, and was still increasing. The pain was very great.

The case was of course unsuited to any further cutting operation. With some hesitation it was determined to attempt to give relief by Dr. Fell's plan of treatment. The complete removal of the morbid mass could scarcely be thought of.

April 10th.—The acid was cautiously applied over a surface of 5 inches in breadth by $2\frac{1}{4}$ in greatest vertical extent. The next day the scoring was begun.

The paste made its way readily through the soft structure of the diseased growth, causing the whole to shrink perceptibly, and large fragments of it had been taken away by the 26th. For a short interval his health seemed to improve. The whole nose sloughed, and the base of the tumour was perforated towards the antrum and nostril, which cavities were consequently opened by its removal. Portions only of the disease remained here and there about the sides of the space from which the greater part had been taken, and these the general state of the patient did not admit of removing. The process of destroying so large a tumour and one in such a position, was necessarily extremely painful.

Indications of disease in his internal organs presented themselves, and all treatment of the part was stopped.

May 12th.—He died exhausted. Numerous small cancerous tumours were found developed in his liver.

EPIHELIAL CANCER, ORIGINATING IN THE SCAR OF A BURN IN
THE FOREARM, UNSUCCESSFULLY TREATED—AMPUTATION.

CASE 48.—Mary R., æt. 62, a sallow, rather thin, married woman, was admitted March 24th, 1857. She was burnt in the right arm when a child, of nine years of age, and portions of the cicatrix are still visible. In the forearm, a little above the middle of the palmar surface, is a very uneven, much elevated mass of epithelial cancer. Its greatest length is in the axis of the arm, and measures $3\frac{1}{2}$ inches. It is $2\frac{1}{4}$ inches broad. Its surface is formed of large granulations, which are not vascular, and is crossed by two deep fissures. The edge is partly hard and adherent to the deeper structures, and partly sinuous and separating. The discharge is small in quantity, but offensive in odour, resembling that from a strumous fungus of the testicle. She suffers severe pain, which is of a stabbing and shooting character, and keeps her awake for hours at night. There is a somewhat enlarged, but soft gland over the middle of the brachial artery. Axilla healthy.

The disease began in November last, when a scale that had formed on a part of the cicatrix having been knocked off by a blow, a tumour grew out in its place, and rapidly enlarged. Two attempts have been made to destroy the tumour by caustics, and one by the subcutaneous ligature, but the disease has each time grown again, with considerable rapidity, in the same place as before. Dr. Fell declined treating the case, alleging that it was not one in which his method could be contrasted with the knife; since the knife was unsuited to it, except for amputation. He assented, however, to the attempt to save the limb from that last resort.

March 25th.—The paste was applied to the whole of the diseased surface. It occasioned much pain. The next day the surface was lightly scored, and on the following day the scores were deepened considerably, the diseased mass having shrunk and become friable, although the surface was very hard.

April 3rd.—The mass appeared to be perforated, the incisions

having reached beneath the level of the surrounding skin, and there being a feeling as of the knife slipping through parts of the growth into softer tissues beneath.

The eschar separated, and left a surface, which was for the most part healthy. In two places, however, some disease remained : one was a minute spot at the inner edge, the other, a mass bulging from the upper and outer part of the surface of the sore.

Both these spots of disease were attacked with the paste, and the outer and larger one treated with incisions as before. The latter grew rapidly, and before the daily dressings were stopped, the eschar was five or six times as large as the mass had been. Upon the separation of the eschar, a base of growing cancer still remained.

After this, the upper edge of the sore became cancerous, but treatment for a few days destroyed the diseased part, and the edge became again quite healthy.

The application of the paste upon the external spot of disease had been renewed, in the hope that its deepest part might be reached, as had been the case with the greater portion of the original tumour ; but when, at length, the elbow and wrist became permanently flexed, and fresh disease appeared at the inner part, while the outer growth still obstinately persisted in rising, evidently from some deep base which could not be reached ; and when, by the increase of this outer growth, the longest diameter of the ulcer, which was originally vertical, had become transverse, the treatment was abandoned. The patient suffered a great deal during the long period occupied in this treatment, partly from the action of the paste, and occasionally from attacks of inflammation and oedema, which involved a considerable part of the surface of the forearm.

The arm was amputated above the elbow, by Mr. Moore, on the 16th of July. The base of the cancer was found to extend amongst the muscles of the superficial layer in the front of the forearm, and to be connected, by two principal apertures in the fascia, with the diseased parts of the ulcer.

September 1st.—The patient's home being in a distant part of the country, she was obliged to leave to-day. Except over the face of the bone, the stump healed in the ordinary time. There fungous growths early presented themselves ; but as they have gradually contracted, so as to occupy now but a small part of the cicatrix,

and have not assumed an appearance of cancer, it is possible they may not be of a malignant nature.

CANCEROUS ULCER OF THE RIGHT LABIUM.

CASE 49.—Margaret H., æt. 52, thin and ill, with scars of old syphilitic ulcers in both groins, came in, February 18th.

Almost the whole right side of the vulva was occupied with cancerous ulcerations, which were irregular in arrangement, mostly crescentic in form, of a bright red colour, and based upon, and surrounded by, firm epithelial cancer. Within the right labium, was a large ulcerated cavity, the limits of which toward the vagina could not be seen. The most painful part was at the back, where a firm mass, behind the fourchette, passed inward by the ischium, and beyond reach, and where the rectum opened into the ulcer.

The disease had begun a year ago, in a small lump at the posterior commissure, which soon burst and ulcerated. A short time before her admission she observed the stools coming by the vagina.

The limits of this disease being uncertain, as well, consequently, as the result of treatment, Dr. Fell declined to undertake the case as a fair one to display his treatment. But he again offered to furnish the materials for our managing it on his plan.

Feb. 19th.—The treatment was begun with the paste diluted with an equal quantity of stramonium ointment.

24th.—The whole ulcer a good deal contracted. Surface dry. No inconvenience from urine, which escapes without difficulty.

28th.—The diseased parts much diminished in size; considerable portions have been removed in a state of dry eschar, but with pain.

March 15th.—Whole cancerous structure seems removed, and healthy granulating and cicatrizing surface remains. Perhaps at the posterior part some ulceration may still exist.

April 15th.—The upper part of the sore has much diminished, but not healed. In consequence of the re-appearance of cancerous disease in the lower part of the labium, the application of the diluted paste was renewed.

July 1st.—The treatment had the effect of reducing the size of the ulcers. But the patient suffered greatly from the lodgment of the fæces at the bottom of the sore: she was also weakened

by diarrhoea and occasional haemorrhage : and being anxious to return to her friends, she left the hospital.

CANCER OF PENIS AND INGUINAL GLANDS.

CASE 50.—John S., æt. 65, a milkman, was admitted June 10th. He is thin and ill, and has an expression of suffering and anxiety on his countenance. The penis ends in a cauliflower-like growth, as large as an apricot. The surface of the growth is tuberculated, white, not vascular, rather dry ; and the tuberculated surface peels off in small flakes. From the greater part of the surface a foetid discharge escapes. Nothing indicates the situation of the orifice of the prepuce. The body of the penis is hard and rather swollen ; sinuses open here and there upon it, discharging common pus. On the pubes, at the root of the penis, is a hard cancerous gland as large as a nutmeg, and clusters of the inguinal glands are enlarged on both sides.

He has always had phymosis. For 6 months he has had shooting pains in the penis. More than three months ago his left testicle swelled, and soon afterwards he first noticed a tumour forming in the foreskin. Considerable discharge took place from time to time, and occasional haemorrhage. In an early stage of the disease he asserts that he lost 0jss of blood at one time. He has had no bleeding from it lately. He suffers severe pain.

Burnett's fluid, diluted with eight, and afterwards with sixteen equivalents of water, was first used as a lotion. Flakes of the surface came off a little more than before. The decoction of sanguinaria was then used : it was more painful than the former lotion, but the flakes which came off were larger than before, and they separated a little more frequently. The difference was very slight, and it was difficult to obtain any trustworthy information from the patient himself in his enfeebled and dejected condition; but when about to return home, it was the lotion of sanguinaria with which he requested to be provided.

CANCER OF THE LIP.

CASE 51.—Feb. 18th.—John L., æt. 59, thin, but still strong, came with an open flat cancer on the front of the lower lip, $1\frac{1}{2}$ inch deep, and $\frac{3}{4}$ inch across. By the side of it was a scar, where a surgeon had removed a similar disease to that which had now reappeared. Besides this recurrent cancer, evidently

epithelial, he had a large mass of enlarged glands on either side, situated partly above and partly below the ramus of the jaw, and so far adherent as to prevent him from more than half opening his mouth. On the right side the skin had given way at the bottom of the mass, and rather a free discharge escaped.

Dr. Fell declined the case. He might remove the recurrent disease in the lip, but there would still be that in the glands; and if that too could be removed (which was doubtful) it would certainly return very soon. Such a case had better be left alone. If the first disease had been treated with his remedy, and not with the knife, he believed it would have returned only in the scar, or at any rate, would have been limited for a long period to that part. In some such cases it never returned at all, even there.

19th.—The treatment was begun with the strong undiluted paste.

21st.—The whole surface of the sore came off with the dry dressing, and was raw and bleeding. Undiluted paste reapplied. Complained of so much pain from application of the sulphate of zinc ointment in the opening of the gland, that he preferred to give up the treatment, and go home again.

CANCER OF THE LOWER LIP.

CASE 52.—A healthy-looking countryman, aged about 38, came to the hospital, having a superficial ulcer, with a firm base, a little to the right of the middle of the lower lip; and just where a groove in the incisor tooth, and his own statements show, that he has been in the habit of carrying his tobacco pipe. The base of the ulcer is a thin but hard mass of epithelial cancer. A small and hard gland can be felt beneath the jaw.

The paste was applied over the ulcerated surface, and two incisions made along it; there was, however, much difficulty in making them, from the rock-like character of the eschar. The separation of the eschar showed that a stratum of disease remained beneath. Four or five separate times the treatment was renewed, and an eschar brought away. At length, the last sore healed, and the man went home, but there was still some slight hardness in the lip, which we suspected to be of cancerous nature.

Observation :—Several cases of this disease were also under treatment, but in a much later stage. They were chiefly cases of recurrent cancer of the lip after operation, in which extensive

destruction of the lip and chin, with induration of the glands, had already taken place. A material improvement was effected in the condition of the parts, by the substitution of clean and partially cicatrized surfaces, for those which had been foul and protuberant. But the improvement was gained at an expense of suffering, which the majority of these patients could not endure.